MITSUBISHI ELECTRIC

Changes for the Better

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

Revision:A
● A2 model has been added.

Please void OB416.

INDOOR UNIT

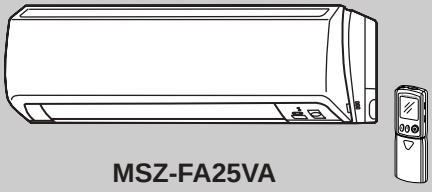
SERVICE MANUAL

No. OB416
REVISED EDITION-A

Wireless type
Models

MSZ-FA25VA - A1
MSZ-FA25VA - A2
MSZ-FA35VA - A1
MSZ-FA35VA - A2

Outdoor unit service manual
MUZ-FA series (OB417)
MXZ-A·VA series (OB447)
MXZ-8A140VA1 (OC316)



MSZ-FA25VA
MSZ-FA35VA

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NOTE:
This service manual describes technical data of the indoor units.

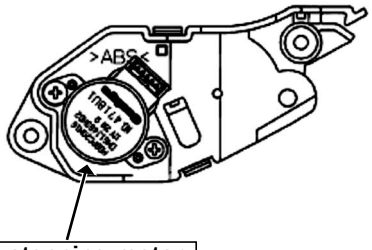
Revision:A

- A2 model has been added.
  Color of BOX and CORNER BOX has been changed to white.

1 TECHNICAL CHANGES

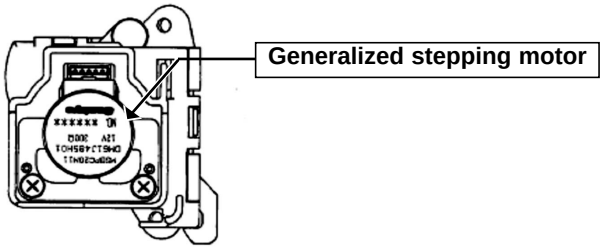
MSZ-A09YV -A1 → MSZ-FA25VA -A1
MSZ-A12YV -A1 → MSZ-FA35VA -A1

1. Indication of capacity has been changed.(BTU base →kW base)
2. Controller method between indoor and outdoor has been changed.
3. Power supply method has been changed (change to supply from outdoor unit).
4. Power supply cord has been removed.
5. Indoor electronic control P.C. board has been changed.
6. Position of terminal block has been changed.
7. Indoor fan motor has been changed. (AC → DC)
8. Indoor heat exchanger has been changed.
9. The horizontal vane motor unit has been changed.
   An external gear is added to the generalized stepping motor.
   The unit is structured so that the driving torque and stopping torque increase.



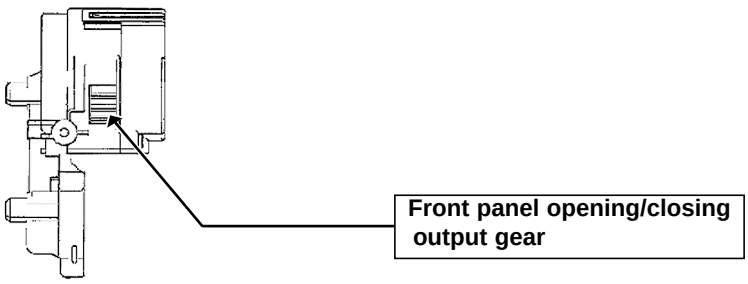
NOTE: Do not remove the vane motor from the motor unit.
Do not disassemble the horizontal vane motor unit.

10. The vertical vane motor unit has been added.
    An external gear is added to the generalized stepping motor.
    The unit is structured so that the driving torque and stopping torque would increase.



NOTE: Do not remove the vane motor from the motor unit.
Do not disassemble the vertical vane motor unit.

11. Front panel driving motor unit which opens and closes the front panel has been added.



NOTE: Do not disassemble the front panel driving motor unit.

12. PLASMA DEODORIZING/AIR PURIFYING filter units have been added.
13. i-see Sensor has been added.
(i-see control operation and AREA setting have been added.)
14. Air cleaning filer has been removed.
15. Signal of remote controller has been changed. (It is not available for the conventional models.)
16. Symbol on terminal block has been changed (to S1/S2/S3).

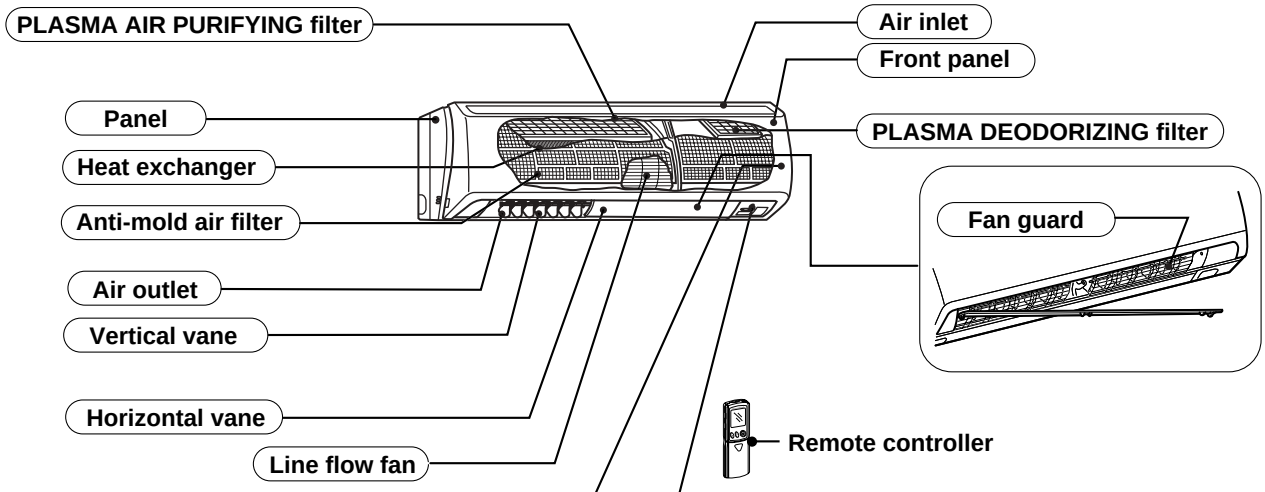
MSZ-FA25VA-A1 → MSZ-FA25VA-A2
MSZ-FA35VA-A1 → MSZ-FA35VA-A2

1. Color of BOX and CORNER BOX has been changed to white.

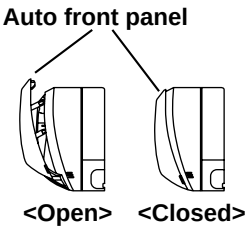
2 PART NAMES AND FUNCTIONS

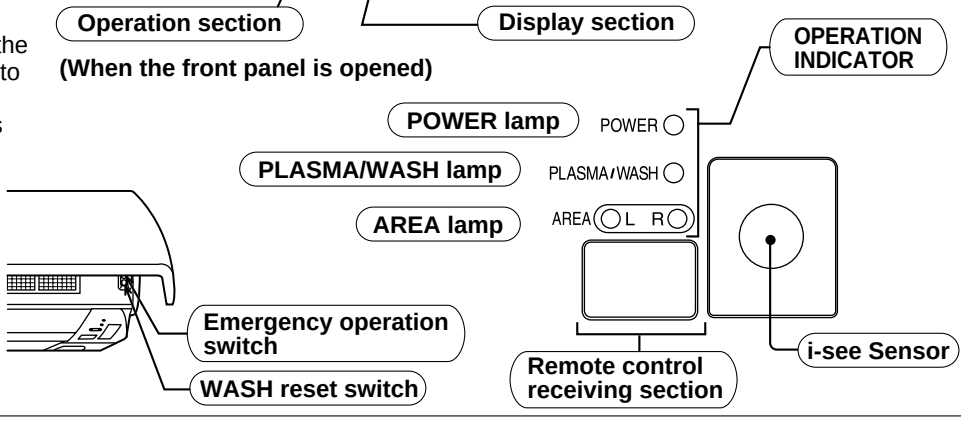
INDOOR UNIT

MSZ-FA25VA
MSZ-FA35VA



Auto front panel
When the unit starts operating, the front panel opens automatically to draw in air. When the unit stops operating, the front panel closes automatically.





AREA lamp indicate AREA setting
In AREA setting, the horizontal air flow direction changes automatically according to the detection of i-see Sensor which detects the floor/ wall temperature to air-condition the room evenly.

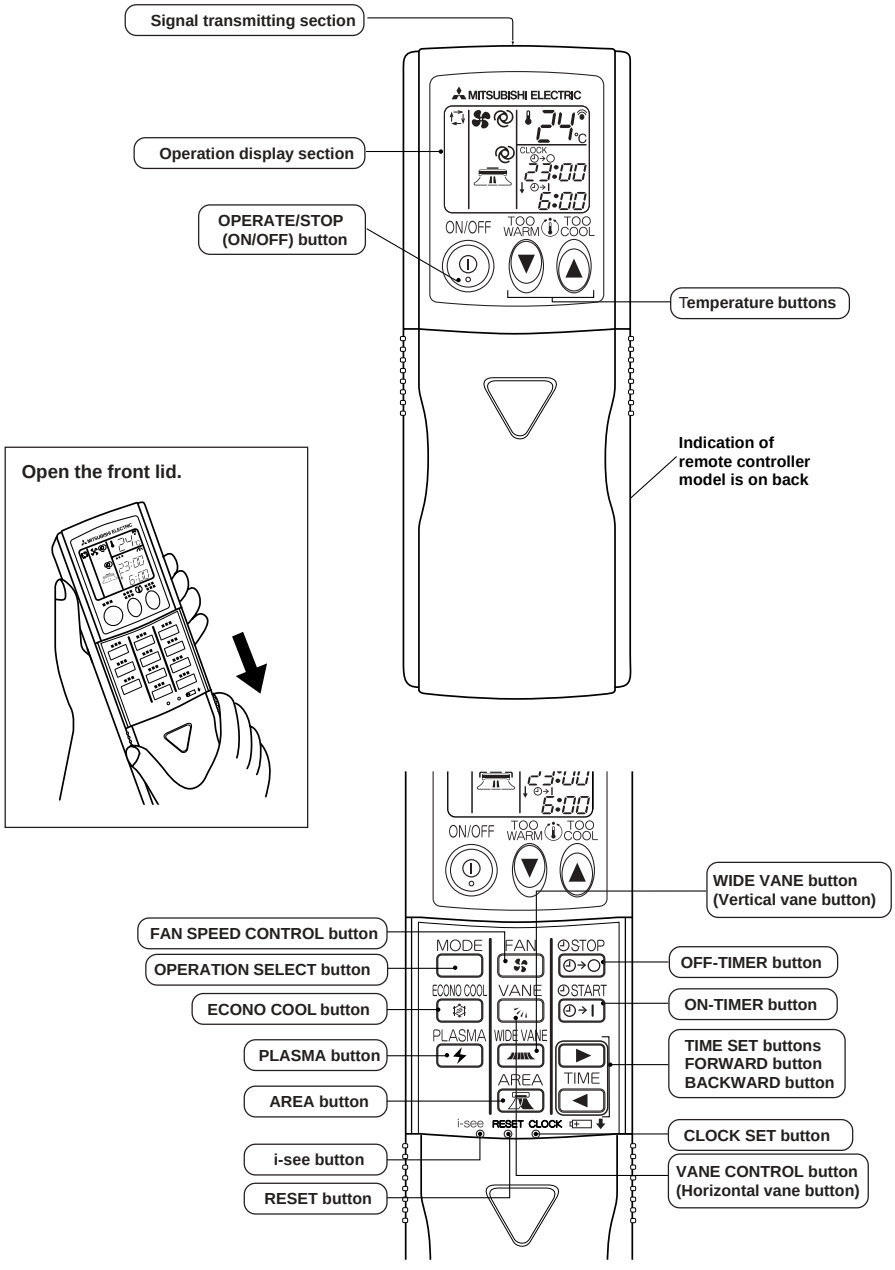
i-see control operation
i-see sensor constantly measure floor/wall temperature to automatically adjust to the set temperature by estimating the temperature actually perceived by a person inside the room ("sensible temperature").

MSZ-FA25VA
MSZ-FA35VA

ACCESSORIES

①	Installation plate	1
②	Installation plate fixing screw 4 × 25 mm	5
③	Remote controller holder	1
④	Fixing screw for ③ 3.5 × 1.6 mm (Black)	2
⑤	Battery (AAA) for remote controller	2
⑥	Wireless remote controller	1
⑦	Felt tape (Used for left or left-rear piping)	1

REMOTE CONTROLLER



3 SPECIFICATION

Indoor model			MSZ-FA25VA		MSZ-FA35VA	
Function			Cooling	Heating	Cooling	Heating
Power supply			Single phase 230V,50Hz		Single phase 230V,50Hz	
Capacity	Air flow(Super High)	m³ /h	594	612	594	612
	Air flow(High/Med./Low)	m³ /h	474/354/252	498/384/264	474/354/258	498/384/276
Electrical data	Power outlet	A	10		10	
	Running current ✻1	A	0.25		0.25	
	Power input ✻1	W	33		33	
	Power factor ✻1	%	57		57	
	Fan motor current ✻1	A	0.25		0.25	
Fan motor	Model		RC0J40-EB or RC0J30-CC		RC0J40-EB or RC0J30-CC	
	Dimensions W×H×D	mm	780×298×198		780×298×198	
	Weight	kg	10		10	
Special remarks	Air direction		4		4	
	Sound level(Super High)	dB(A)	42		42	
	Sound level(High/Med./Low)	dB(A)	36/29/21		36/29/22	
	Fan speed(Super High)	rpm	1,220	1,250	1,220	1,250
	Fan speed(High/Med./Low)	rpm	1,010/800/610	1,050/850/640	1,010/800/630	1,050/850/660
	Fan speed regulator		4		4	
	Remote controller model		KM05A		KM05A	

When outdoor unit is MXZ-8A140VA$_1$.

Indoor model			MSZ-FA25VA		MSZ-FA35VA	
Function			Cooling	Heating	Cooling	Heating
Capacity	Air flow(Super High)	m³ /h	546	540	642	
	Air flow(High/Med./Low)	m³ /h	450/348/252	420/372/264	516/390/258	522/402/276
Special remarks	Sound level(Super High)	dB(A)	42		42	
	Sound level(High/Med./Low)	dB(A)	36/29/21		36/29/22	
	Fan speed(Super High)	rpm	1,130	1,120	1,300	
	Fan speed(High/Med./Low)	rpm	960/790/610	910/830/640	1,080/860/630	1,090/880/660

NOTE : Test conditions are based on AS/NZS 3823.1.1.

Cooling : Indoor Dry-bulb temperature 27℃ Wet-bulb temperature 19℃
Outdoor Dry-bulb temperature 35℃ Wet-bulb temperature 24℃
Heating : Indoor Dry-bulb temperature 20℃ Wet-bulb temperature 15℃
Outdoor Dry-bulb temperature 7℃ Wet-bulb temperature 6℃
Refrigerant piping length (one way): 5m
✻1 Measured under rated operating frequency.

Specifications and rating conditions of main electric parts

INDOOR UNIT

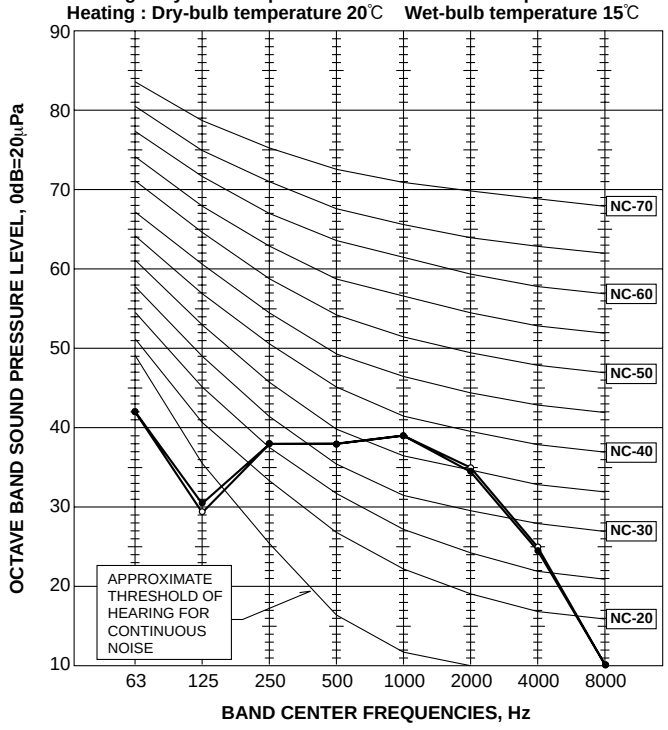
Item		
Fuse	(F11)	T3.15AL250V
Front panel driving motor	(MP)	NSEJ001DA1 12V DC 100Ω (at 25˚C)
i-see Sensor motor	(MT)	MP20Z 12V DC 300Ω (at 25˚C)
Horizontal vane motor	(MV1)	MSBPC20M16 12V DC 250Ω (at 25˚C)
Vertical vane motor	(MV2)	MSBPC20M11 12V DC 300Ω (at 25˚C)
Varistor	(NR11)	ERZV14D471
i-see Sensor	(RR)	A2TPMI334F0V50HSOBA060P5L1J4S 5V DC
Terminal block	(TB)	3P

4 NOISE CRITERIA CURVES

MSZ-FA25VA

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	42	●——●
	HEATING	42	○——○

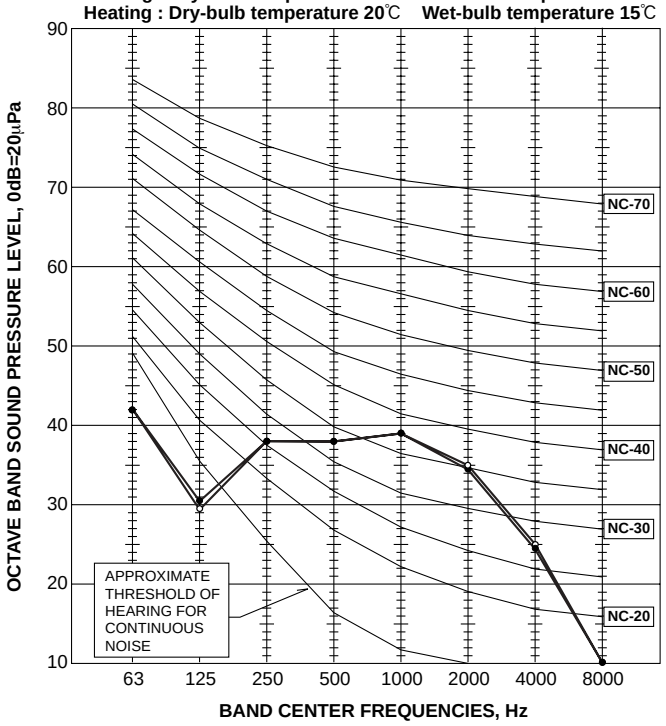
Test conditions,
Cooling : Dry-bulb temperature 27℃ Wet-bulb temperature 19℃
Heating : Dry-bulb temperature 20℃ Wet-bulb temperature 15℃

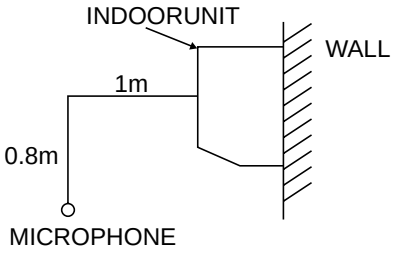


MSZ-FA35VA

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
Super High	COOLING	42	●——●
	HEATING	42	○——○

Test conditions,
Cooling : Dry-bulb temperature 27℃ Wet-bulb temperature 19℃
Heating : Dry-bulb temperature 20℃ Wet-bulb temperature 15℃



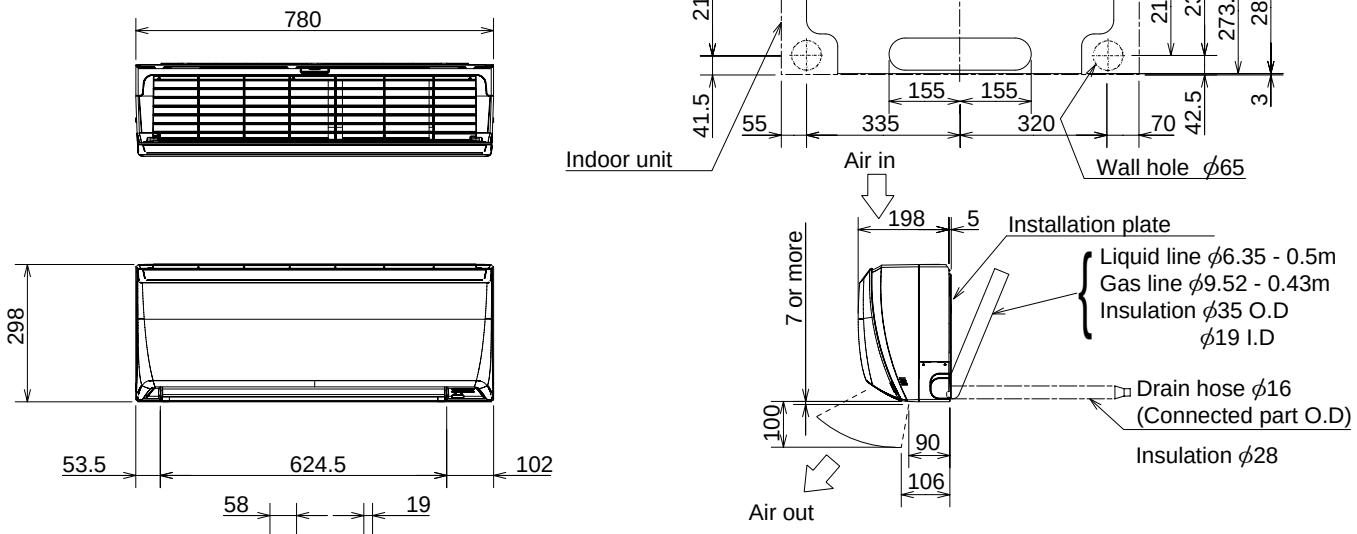


5 OUTLINES AND DIMENSIONS

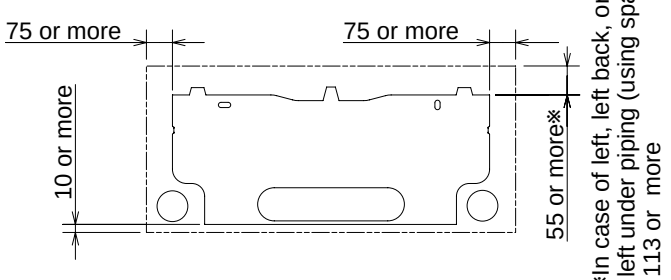
MSZ-FA25VA
MSZ-FA35VA

Unit : mm

INDOOR UNIT

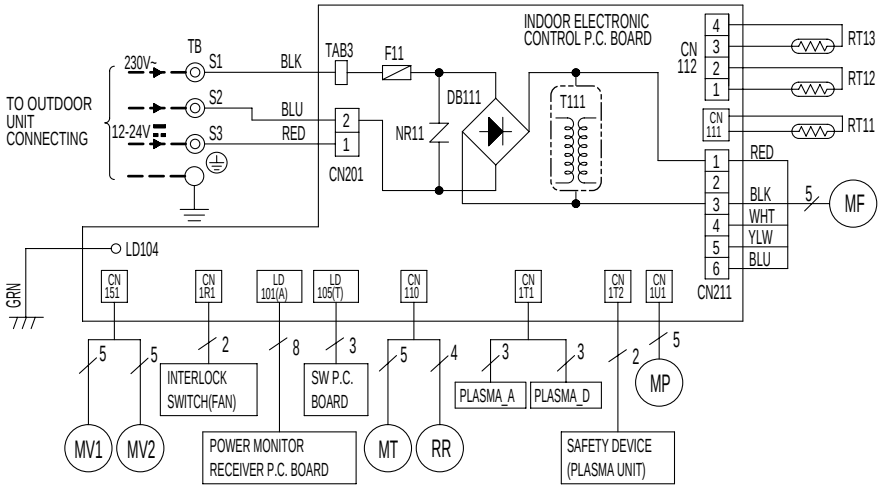


Required space (Indoor unit)



6 WIRING DIAGRAM

MSZ-FA25VA
MSZ-FA35VA
INDOOR UNIT



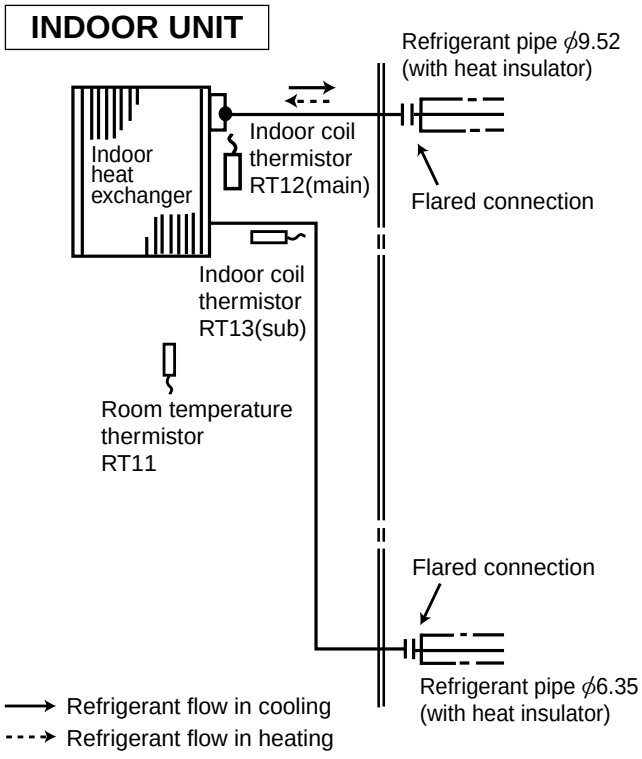
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
DB111	DIODE STACK	MV2	VANE MOTOR (VERTICAL)	RT12	INDOOR COIL THERMISTOR (MAIN)
F11	FUSE (T3.15AL250V)	NR11	VARISTOR	RT13	INDOOR COIL THERMISTOR (SUB)
MF	INDOOR FAN MOTOR	PLASMA_A	PLASMA AIR PURIFYING FILTER UNIT	T111	TRANSFORMER
MP	FRONT PANEL DRIVING MOTOR	PLASMA_D	PLASMA DEODORIZING FILTER UNIT	TB	TERMINAL BLOCK
MT	i-see Sensor MOTOR	RR	i-see Sensor		
MV1	VANE MOTOR (HORIZONTAL)	RT11	ROOM TEMPERATURE THERMISTOR		

NOTE:1. About the outdoor side electric wiring refer to the outdoor unit electric wiring diagram for servicing.
2. Use copper conductors only. (For field wiring)
3. Symbols below indicate.
◎: Terminal block, □□□□: Connector

7 REFRIGERANT SYSTEM DIAGRAM

MSZ-FA25VA

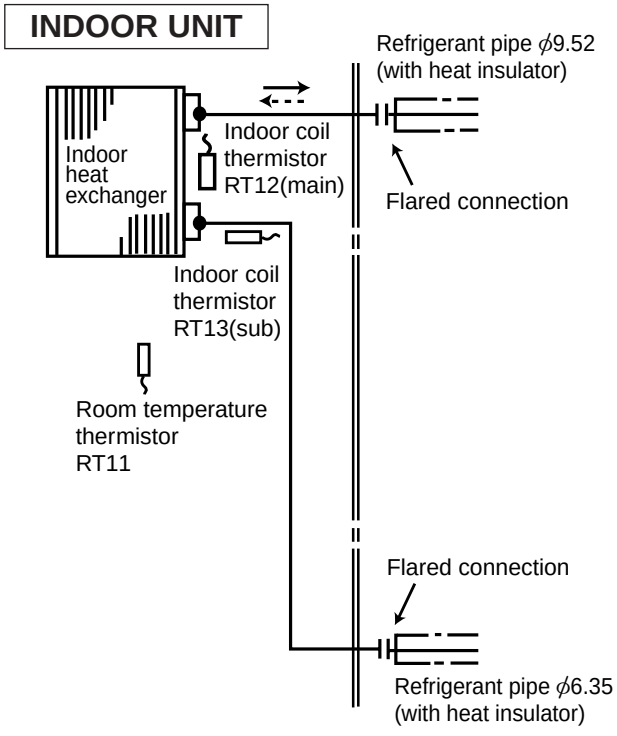
INDOOR UNIT



MSZ-FA35VA

Unit : mm

INDOOR UNIT



8 SERVICE FUNCTIONS

MSZ-FA25VA
MSZ-FA35VA

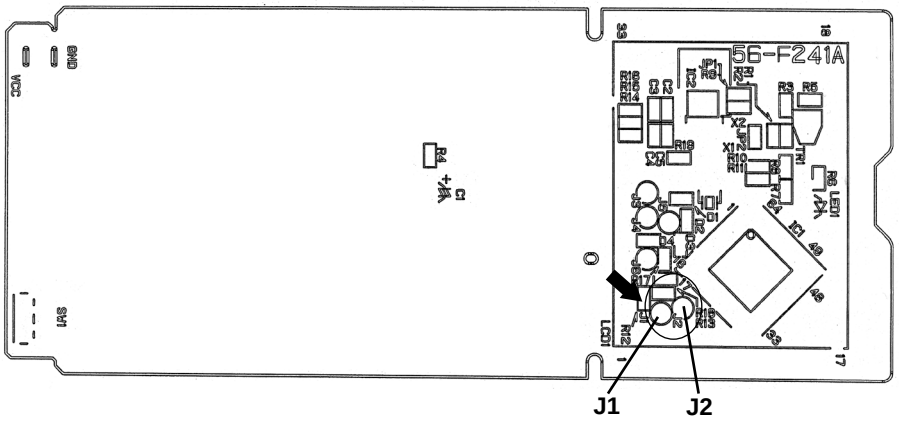
8-1. TIMER SHORT MODE

For service, set time can be shortened by short circuit of JPG and JPS the electronic control P.C. board.
The time will be shortened as follows. (Refer to 9-7.)
Set time : 1-minute ➔ 1-second
Set time : 3-minute ➔ 3-second (It takes 3 minutes for the compressor to start operation. However, the starting time is shortened by short circuit of JPG and JPS.)

8-2. P.C. BOARD MODIFICATION FOR INDIVIDUAL OPERATION

A maximum of 4 indoor units with wireless remote controllers can be used in a room.
In this case, to operate each indoor unit individually by each remote controller, P.C. boards of remote controller must be modified according to the number of the indoor unit.

How to modify the remote controller P.C. board
Remove batteries before modification.
The board has a print as shown below :



NOTE : For remodelling, take out the batteries and press the OPERATE/STOP(ON/OFF) button twice or 3 times at first.
After finish remodelling, put back the batteries then press the RESET button.

The P.C. board has the print “J1” and “J2”. Solder “J1” and “J2” according to the number of indoor unit as shown in Table 1.
After modification, press the RESET button.

Table 1

	1 unit operation	2 units operation	3 units operation	4 units operation
No. 1 unit	No modification	Same as at left	Same as at left	Same as at left
No. 2 unit	–	Solder J1	Same as at left	Same as at left
No. 3 unit	–	–	Solder J2	Same as at left
No. 4 unit	–	–	–	Solder both J1 and J2

How to set the remote controller exclusively for particular indoor unit.
After you turn the breaker ON, the first remote controller that sends the signal to the indoor unit will be regarded as the remote controller for the indoor unit.
The indoor unit will only accepts the signal from the remote controller that has been assigned to the indoor unit once they are set.
The setting will be cancelled if the breaker has turned off, or the power supply has shut down.
Please conduct the above setting once again after the power has restored.

8-3. AUTO RESTART FUNCTION

When the indoor unit is controlled with the remote controller, the operation mode, the set temperature, and the fan speed are memorized by the indoor electronic control P.C. board. The “AUTO RESTART FUNCTION” sets to work the moment power has restored after power failure. Then, the unit will restart automatically.

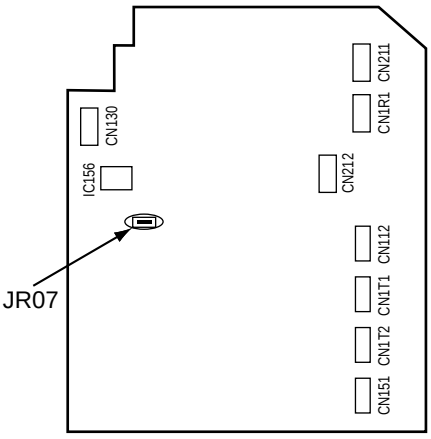
Operation

① If the main power has been cut, the operation settings remain.
② After the power is restored, the unit restarts automatically according to the memory.
(However, it takes at least 3 minutes for the compressor to start running.)

How to release "AUTO RESTART FUNCTION"

①Turn off the main power for the unit.

②Solder the Jumper wire JR07 on the indoor electronic control P.C. board. (Refer to 9-7.)

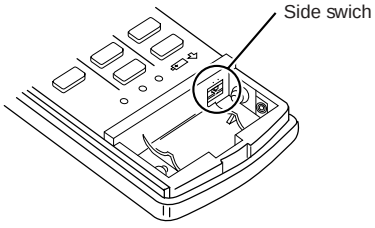


NOTE:

- The operation settings are memorized when 10 seconds have passed after the indoor unit was operated with the remote controller.
- If main power is turned OFF or a power failure occurs while AUTO START/STOP timer is active, the timer setting is cancelled.
- If the unit has been off with the remote controller before power failure, the auto restart function does not works as the power button of the remote controller is off.
- To prevent breaker off due to the rush of starting current, systematize other home appliance not to turn on at the same time.
- When some air conditioners are connected to the same supply system, if they are operated before power failure, the starting current of all the compressors may flow simultaneously at restart.
  Therefore, the special counter-measures are required to prevent the main voltage-drop or the rush of the starting current by adding to the system that allows the units to start one by one.

8-4. Remote controller

Be sure to set the slide switch inside the remote controller to an appropriate position in accordance with the installed position of the indoor unit. If the switch is not set correctly, the air conditioner may not function properly.

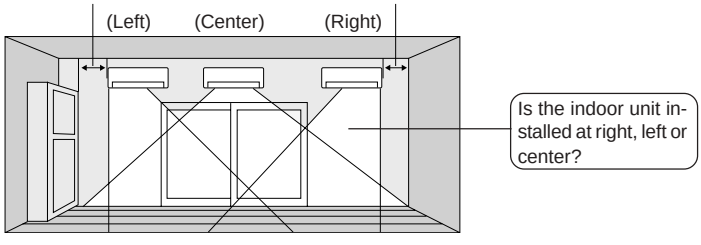


Area	Left	Center	Right
Position of the slide switch	L . C . R	L . C . R	L . C . R
Display on the remote controller			

Where is the indoor unit installed in your room?

Installed at left , if the distance is not more than 50 cm.

Installed at right , if the distance is not more than 50 cm.



NOTE: If the indoor unit is installed more than 50 cm away from the side walls, cabinets or other nearby objects, set the slide switch to the "center" position.

9 TROUBLESHOOTING

MSZ-FA25VA
MSZ-FA35VA

9-1. Cautions on troubleshooting

1. Before troubleshooting, check the following:

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care the following during servicing.

1) Before servicing the air conditioner, be sure to turn off the unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and / or disconnect the power plug.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.

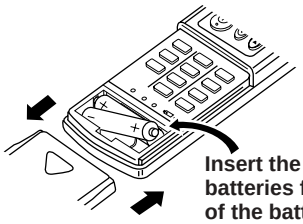
3. Troubleshooting procedure

1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
2) Before servicing check that the connector and terminal are connected properly.
3) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
4) When troubleshooting, refer to 9-2., 9-3. and 9-4.

4. How to replace batteries

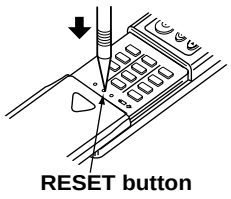
Weak batteries may cause the remote controller malfunction.
In this case, replace the batteries to operate the remote controller normally.

① Remove the front lid and insert batteries. Then reattach the front lid.



Insert the negative pole of the batteries first. Check if the polarity of the batteries are correct.

② Press RESET button with tip end of ball point pen or the like, and then use the remote controller.



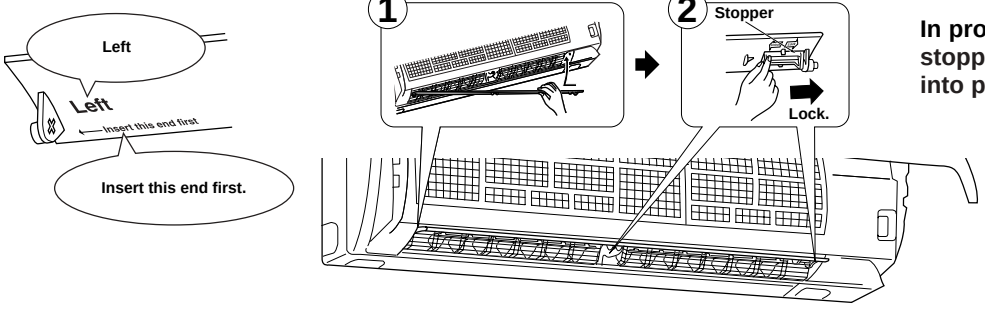
RESET button

NOTE : 1. If RESET button is not pressed, the remote controller may not operate correctly.
2. This remote controller has a circuit to automatically reset the microcomputer when batteries are replaced. This function is equipped to prevent the microcomputer from malfunctioning due to the voltage drop caused by the battery replacement.

5. How to install the horizontal vane

If horizontal vane is not installed correctly, All of the operation indicator lamps will blink.
In this case, install the horizontal vane correctly by following the procedures ① to ②.

NOTE: Before installation of the horizontal vane, turn OFF the power supply.



In procedure ② lock the stoppers until they click into place.

6. How to remove and install PLASMA DEODORIZING / AIR PURIFYING filter units

If PLASMA/WASH lamp on the indoor unit blinks, clean the filters as soon as possible. The lamp will start blinking when accumulated operating time exceeds 330 hours.

<Remove>

(1) Switch the indoor unit OFF with the remote controller and disconnect the power supply plug and/ or turn OFF the breaker.
NOTE: Otherwise, you may get injured since PLASMA DEODORIZING/AIR PURIFYING filter units are charged with high voltage.
(2) Hold the knobs on both sides of the front panel and lift the panel up until its level.
(3) Remove the anti-mold air filter.(See Figure 1.)
(4) Remove PLASMA DEODORIZING/AIR PURIFYING filter units. (See Figure 2.)

Figure 1.

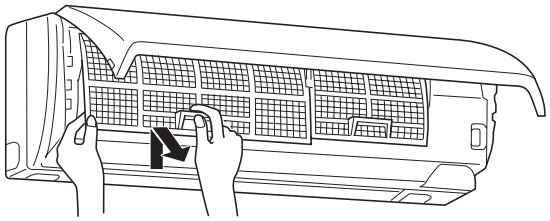
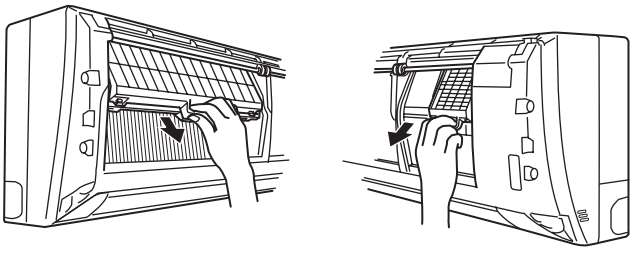


Figure 2.



<Install>

Install PLASMA DEODORIZING/AIR PURIFYING filter units by following the removal procedure in reverse.

(1) Insert the top of PLASMA DEODORIZING/AIR PURIFYING filter units into the aperture in the plasma element holder. (See Figure 3.)
(2) Push in PLASMA DEODORIZING/AIR PURIFYING filter units until they click into place.
•The front panel does not close if PLASMA DEODORIZING/AIR PURIFYING filter units are not installed properly.
(3) Install the anti-mold air filter.
(4) Connect the power supply plug and/or turn ON the breaker.
(5) Press WASH reset switch. A short “beep” is heard and the blinks of PLASMA/WASH lamp will be cancelled. Make sure PLASMA/WASH lamp is not blinking at the start of operation next time. (See Figure 4.)
(6) Hold both sides of the front panel and close the front panel.
(7) Press the 3 positions on the front panel as indicated by the arrows.(See Figure 5.)

Figure 3.

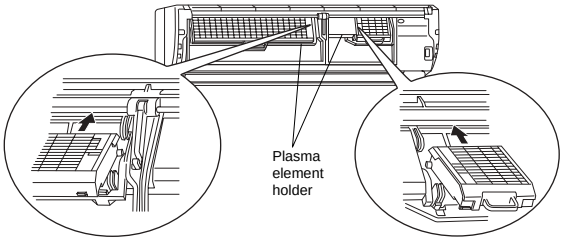


Figure 4.

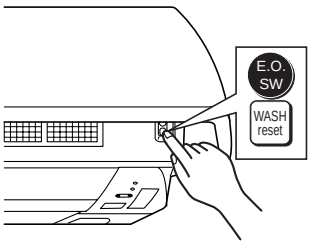
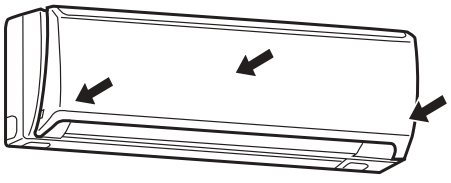


Figure 5.

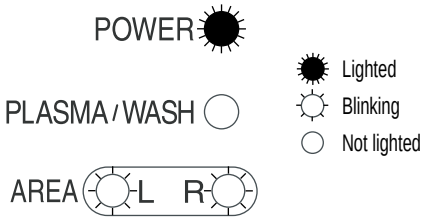


NOTE:
Install PLASMA DEODORIZING/AIR PURIFYING filter units only when they are completely dry. If the filter unit remains wet, PLASMA/WASH lamp may blink and the plasma function may be disabled.(When PLASMA DEODORIZING/AIR PURIFYING filter units are cleaned.)

INFORMATION FOR MULTI SYSTEM AIR CONDITIONER
OUTDOOR UNIT : MXZ series

Multi system air conditioner can connect two or more indoor units with one outdoor unit.

- Unit won't operate in case the total capacity of indoor units exceeds the capacity of outdoor units. Do not connect indoor units beyond the outdoor unit capacity.
  Operation indicator lamp flashes as shown in the figure below.
- When you try to operate two or more indoor units with one outdoor unit simultaneously, one for the cooling and the other for heating, the operation mode of the indoor unit that operates earlier is selected. The other indoor units which start the operation later cannot operate, indicating as shown in the figure below. In this case, please set all the indoor units to the same operation mode.



- When indoor units start the operation while the defrosting of outdoor unit is being done, it takes a few minutes (max. 10 minutes) to blow out the warm air.
- In the heating operation, though indoor unit that does not operate may get warm or the sound of refrigerant flowing may be heard, they are not malfunction. The reason is that the refrigerant continuously flows into it.

9-2. Failure mode recall function

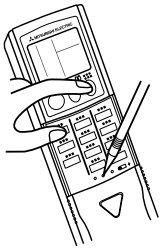
Outline of the function

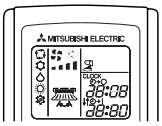
This air conditioner can memorize the abnormal condition which has occurred once.

Even though LED indication listed on the troubleshooting check table disappears, the memorized failure details can be recalled.

This mode is very useful when the unit needs to be repaired for the abnormality which doesn't recur.

1. Flow chart of failure mode recall function for the indoor/outdoor unit





※1. Regardless of normal or abnormal, a short beep is emitted once as the signal is received.

Operational procedure

The cause of abnormality cannot be found because the abnormality doesn't recur.

Setting up the failure mode recall function

Turn ON the power supply.
<Preparation of the remote controller>
① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button.
And release the other two buttons after all LCD except the set temperature in operation display section of the remote controller is displayed after 3 seconds.

Press OPERATE/STOP(ON/OFF) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit. ※1

Does POWER lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: Either indoor or outdoor unit is abnormal.
Beep are emitted at the same timing as the blinking of POWER lamp. ※2

No (OFF) → The plasma or outdoor unit might be abnormal because there are some abnormalities that can't be recalled with this way.
Confirm if plasma unit or outdoor unit is abnormal according to the flow chart of the plasma unit or detailed outdoor unit failure mode recall function.

Yes (Blinks)

Judgment of indoor/outdoor abnormality

Before blinking, does POWER lamp stay ON for 3 seconds?
Stays ON for 3 seconds (without beep): The outdoor unit is abnormal.

Yes → The outdoor unit is abnormal.
Check the blinking pattern, and confirm the abnormal point with the outdoor unit failure mode table (Refer to outdoor unit service manual.)
Make sure to check at least two consecutive blinking cycles. ※3

No → The indoor unit is abnormal.
Check the blinking pattern, and confirm the abnormal point with the indoor unit failure mode table (9-2.4.).
Make sure to check at least two consecutive blinking cycles. ※2

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures. (A or B , C)
A With the remote controller headed towards the indoor unit, press any button that is not used in this failure mode recall function (e.g. TIMER button) .
B Turn OFF the power supply and turn ON it again.
C Press RESET button of the remote controller.

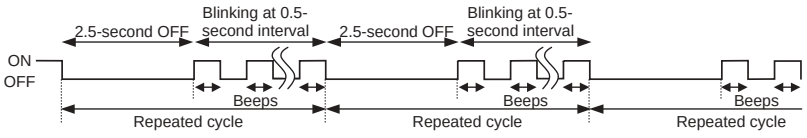
Repair the defective parts.

Deleting the abnormal memorized condition

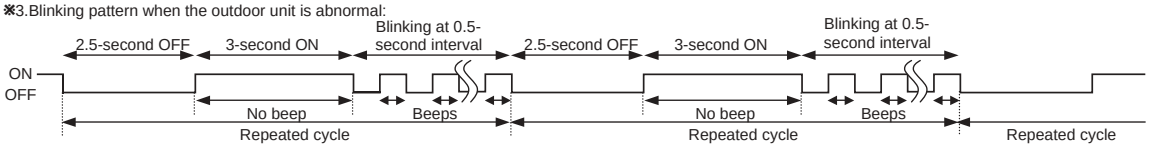
1 After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall function" mentioned above.
2 Press OPERATE/STOP(ON/OFF) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
3 Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
4 Release the failure mode recall function according to "Releasing the failure mode recall function" mentioned above.

Note1.Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.
2.If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when the indoor unit is abnormal:



※3.Blinking pattern when the outdoor unit is abnormal:



2. Flow chart of PLASMA DEODORIZING/PLASMA AIR PURIFYING power failure mode recall function

Operational procedure

The plasma unit might be abnormal.
Confirm if plasma unit is abnormal according to the following procedures.

Confirm that the remote controller is in the failure mode recall function.

With the remote controller headed towards the indoor unit, press TOO COOL or TOO WARM button to adjust the set temperature to 23℃. ※1

※1. Regardless of normal or abnormal, a short beep is emitted as the signal is received.

Does POWER lamp on the indoor unit blink at the interval of 0.5 seconds?
Blinks: The plasma unit is abnormal.
Beep are emitted at the same timing as the blinking of POWER lamp. ※2

No (OFF)

Yes (Blinks)

The plasma unit is abnormal.
Check the blinking pattern, and refer to confirm the abnormal point with the PLASMA DEODORIZING/PLASMA AIR PURIFYING power failure mode table (9-2.5.).
Make sure to check at least two consecutive blinking cycles. ※2

The plasma unit is normal.

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures. (Ⓐ or Ⓑ Ⓒ)
A With the remote controller headed towards the indoor unit, press any button that is not used in this failure mode recall function (e.g. TIMER button) .
B Turn OFF the power supply and turn ON it again.
C Press RESET button of the remote controller.

Release the failure mode recall function according to the left mentioned procedure.

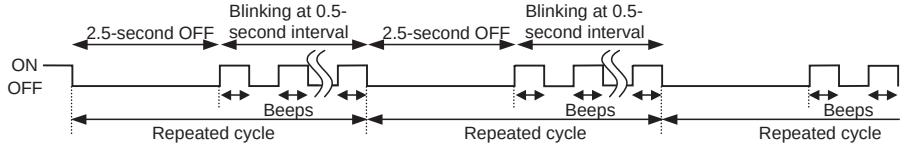
Repair the defective parts.

Deleting the abnormal memorized condition

1 After repairing the unit, recall the failure mode again according to "Setting up the failure mode recall function" mentioned above.
2 Press OPERATE/STOP(ON/OFF) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit.
3 Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
4 Release the failure mode recall function according to "Releasing the failure mode recall function" mentioned above.

Note1. Make sure to release the failure mode recall function once it's set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2.Blinking pattern when plasma unit is abnormal:



3. PLASMA DEODORIZING/PLASMA AIR PURIFYING power operation check

PLASMA DEODORIZING/PLASMA AIR PURIFYING power goes ON when PLASMA button on the remote contoller is pressed with any set temperature displayed during failure mode recall function.
PLASMA button is pressed, the power of plasma is changed in sequence:
PLASMA DEODORIZING power goes ON → PLASMA AIR PURIFYING power goes ON → Cancel
Check the operation display section of the remote controller to confirm that PLASMA DEODORIZING power or PLASMA AIR PURIFYING power is activated.
While PLASMA/WASH lamp stays OFF, it means normal.
Flashing PLASMA/WASH lamp means abnormal, the plasma power is not conducted.

PLASMA/WASH lamp	Action
Continuously blinking	Follow "Check of PLASMA DEODORIZING power" or "Check of PLASMA AIR PURIFYING power" to identify the error.(Refer to 9-6.Ⓕ or Ⓖ.)
2-time flash	PLASMA DEODORIZING power and/or PLASMA AIR PURIFYING power control circuit on the indoor electronic control P.C. board is out of order.(Refer to 9-6.Ⓕ or Ⓖ.)

NOTE: Perform the above mentioned check with the front panel closed (Refer to 9-1.6 Figure5). The SAFETY DEVICE (PLASMA UNIT) works by opening front panel and the plasma power is cut.

4. Indoor unit failure mode table

POWER lamp	Abnormal point (Failure mode)	Condition	Correspondence
Not lighted	Normal	–	–
1-time flash every 0.5-second	Room temperature thermistor	When the room temperature thermistor short or open circuit is detected every 8 seconds during operation.	Refer to the characteristics of the room temperature thermistor (9-7.).
2-time flash 2.5-second OFF	Indoor coil thermistor	When the indoor coil thermistor short or open circuit is detected every 8 seconds during operation.	Refer to the characteristics of the main indoor coil thermistor, the sub indoor coil thermistor (9-7.).
3-time flash 2.5-second OFF	Serial signal	When the serial signal from the outdoor unit is not received for a maximum of 6 minutes.	Refer to 9-6.Ⓓ "How to check mis-wiring and serial signal error".
11-time flash 2.5-second OFF	Indoor fan motor	When the rotational frequency feedback signal is not emitted during the 12-seconds indoor fan operation.	Refer to 9-6.Ⓐ "Check of indoor fan motor".
12-time flash 2.5-second OFF	Indoor control system	When it cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.	Replace the indoor electronic control P.C. board.

NOTE : Blinking patterns of this mode differ from the ones of Troubleshooting check table (9-4.).

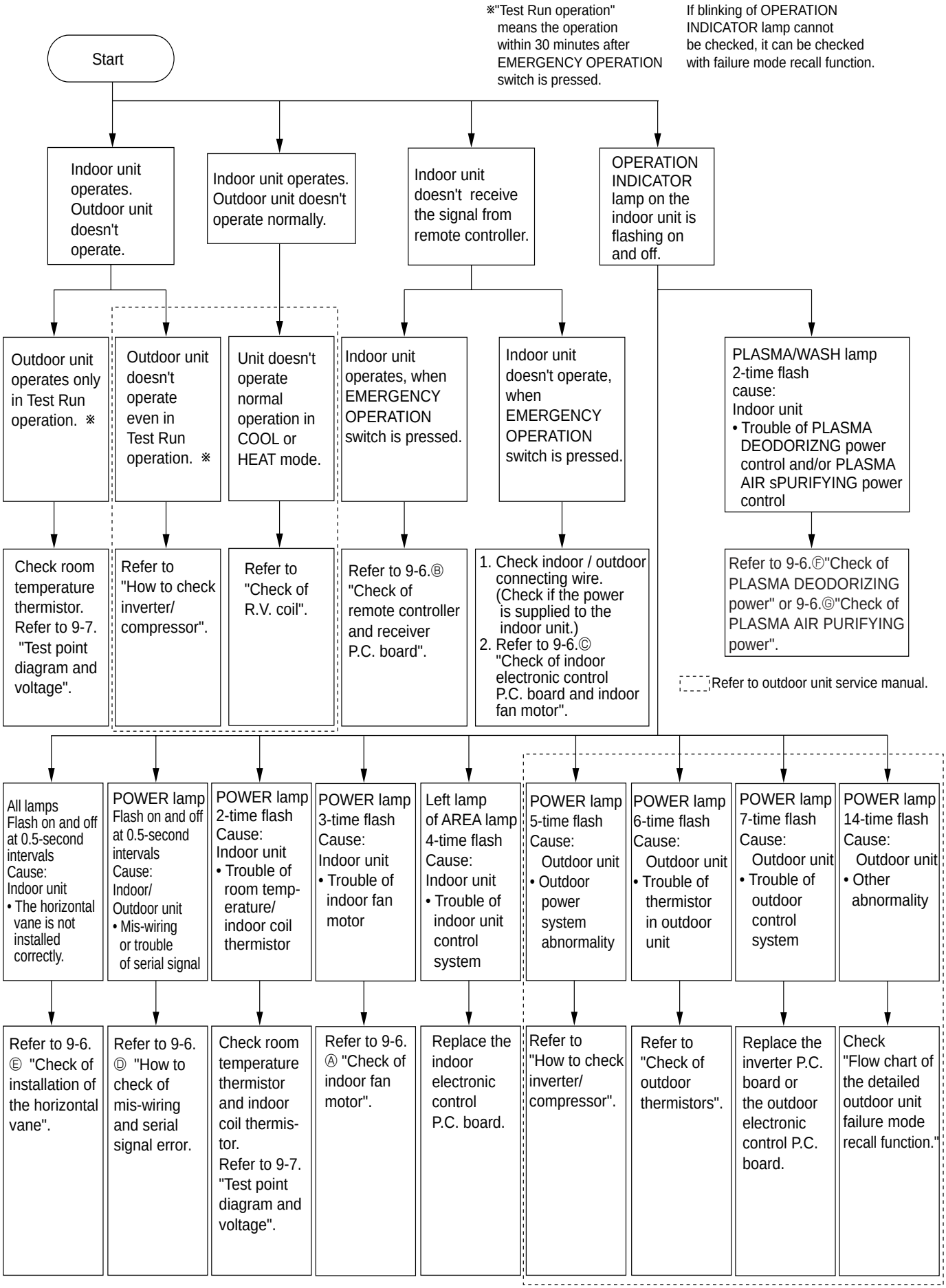
5. PLASMA DEODORIZING/PLASMA AIR PURIFYING power failure mode table

POWER lamp	Abnormal point (Failure mode)	Condition	Correspondence
1-time flash	PLASMA DEODORIZING/ PLASMA AIR PURIFYING power control	When PLASMA DEODORIZING and/or PLASMA AIR PURIFYING power cannot be turned OFF even if the PLASMA operation is turned OFF with the remote controller.	Refer to 9-6.Ⓕ"Check of PLASMA DEODORIZING power" or 9-6.Ⓖ"Check of PLASMA AIR PURIFYING power".
2-time flash	Spark discharge	When the voltage between CN1 ③(+) and ②(GND) on the PLASMA POWER P.C. board (in the PLASMA DEODORIZING or PLASMA AIR PURIFYING unit) falls below 1.6V(spark discharge judgment voltage).	
3-time flash	Abnormal electric discharge error 1	When the voltage between CN1 ③(+) and ②(GND) on the PLASMA POWER P.C. board (in the PLASMA DEODORIZING or PLASMA AIR PURIFYING unit) falls by 0.9V below the normal voltage value (3V).	
4-time flash	Abnormal electric discharge error 2	When the voltage between CN1 ③(+) and ②(GND) on the PLASMA POWER P.C. board (in the PLASMA DEODORIZING or PLASMA AIR PURIFYING unit) falls significantly. (0.4V / 0.5ms)	
5-time flash	PLASMA DEODORIZING/ PLASMA AIR PURIFYING power	When the voltage between CN1 ③(+) and ②(GND) on the PLASMA POWER P.C. board (in the PLASMA DEODORIZING or PLASMA AIR PURIFYING unit) rises above the normal voltage value (3V).	

NOTE1 : Blinking patterns of this mode differ from the ones of Troubleshooting check table (9-4.).

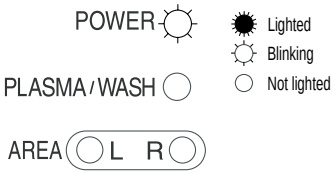
NOTE2 : As soon as an abnormality is detected, PLASMA DEODORIZING power and/or PLASMA AIR PURIFYING power goes OFF, therefore measuring instrument which records the voltage wave is required in order to perform the above mentioned voltage measurement.

9-3. Instruction of troubleshooting


※"Test Run operation" means the operation within 30 minutes after EMERGENCY OPERATION switch is pressed.
If blinking of OPERATION INDICATOR lamp cannot be checked, it can be checked with failure mode recall function.
Start
Indoor unit operates. Outdoor unit doesn't operate.
Indoor unit operates. Outdoor unit doesn't operate normally.
Indoor unit doesn't receive the signal from remote controller.
OPERATION INDICATOR lamp on the indoor unit is flashing on and off.
Outdoor unit operates only in Test Run operation. ※
Outdoor unit doesn't operate even in Test Run operation. ※
Unit doesn't operate normal operation in COOL or HEAT mode.
Indoor unit operates, when EMERGENCY OPERATION switch is pressed.
Indoor unit doesn't operate, when EMERGENCY OPERATION switch is pressed.
PLASMA/WASH lamp 2-time flash cause: Indoor unit • Trouble of PLASMA DEODORIZNG power control and/or PLASMA AIR sPURIFYING power control
Check room temperature thermistor. Refer to 9-7. "Test point diagram and voltage".
Refer to "How to check inverter/ compressor".
Refer to "Check of R.V. coil".
Refer to 9-6.Ⓑ "Check of remote controller and receiver P.C. board".
1. Check indoor / outdoor connecting wire. (Check if the power is supplied to the indoor unit.)
2. Refer to 9-6.Ⓒ "Check of indoor electronic control P.C. board and indoor fan motor".
Refer to 9-6.Ⓕ"Check of PLASMA DEODORIZING power" or 9-6.Ⓖ"Check of PLASMA AIR PURIFYING power".
Refer to outdoor unit service manual.
All lamps Flash on and off at 0.5-second intervals Cause: Indoor unit • The horizontal vane is not installed correctly.
POWER lamp Flash on and off at 0.5-second intervals Cause: Indoor/ Outdoor unit • Mis-wiring or trouble of serial signal
POWER lamp 2-time flash Cause: Indoor unit • Trouble of room temp-erature/ indoor coil thermistor
POWER lamp 3-time flash Cause: Indoor unit • Trouble of indoor fan motor
Left lamp of AREA lamp 4-time flash Cause: Indoor unit • Trouble of indoor unit control system
POWER lamp 5-time flash Cause: Outdoor unit • Outdoor power system abnormality
POWER lamp 6-time flash Cause: Outdoor unit • Trouble of thermistor in outdoor unit
POWER lamp 7-time flash Cause: Outdoor unit • Trouble of outdoor control system
POWER lamp 14-time flash Cause: Outdoor unit • Other abnormality
Refer to 9-6. Ⓔ "Check of installation of the horizontal vane".
Refer to 9-6. Ⓓ "How to check of mis-wiring and serial signal error.
Check room temperature thermistor and indoor coil thermis-tor. Refer to 9-7. "Test point diagram and voltage".
Refer to 9-6. Ⓐ "Check of indoor fan motor".
Replace the indoor electronic control P.C. board.
Refer to "How to check inverter/ compressor".
Refer to "Check of outdoor thermistors".
Replace the inverter P.C. board or the outdoor electronic control P.C. board.
Check "Flow chart of the detailed outdoor unit failure mode recall function."

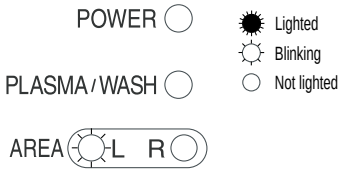
9-4. Troubleshooting check table

Before taking measures, make sure that the symptom reappears for accurate troubleshooting.
When the indoor unit has started operation and the following detection method has detected an abnormality (the first detection after the power ON), the indoor electronic control P.C. board turns OFF the indoor fan motor with OPERATION INDICATOR lamp flashing.



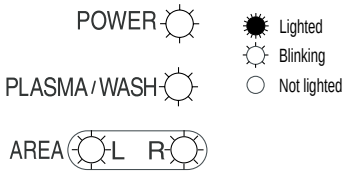
· Flashing of POWER lamp indicates abnormalities.

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Correspondence
1	Mis-Wiring or serial signal	POWER lamp flashes. 0.5-second ON ●○●○●○●○ 0.5-second OFF	Outdoor unit does not operate.	When the serial signal form the outdoor unit is not received for a maximum of 6 minutes.	• Refer to 9-6.Ⓓ "How to check mis-wiring and serial signal error".
2	Outdoor control system	POWER lamp lights up ●	Outdoor unit does not operate.	When it cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.	• Check the blinking pattern of the LED on the inverter P.C. board or the outdoor electronic control P.C. board.
3	Indoor coil thermistor Room tempera-ture thermistor	POWER lamp flashes. 2-time flash ●○●○○○○○●○●○○ 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When the indoor coil or the room temperature thermistor is short or open circuit.	• Refer to 9-7.the characteristics of indoor coil thermistor, and the room temperature thermistor.
4	Indoor fan motor	POWER lamp flashes. 3-time flash ●○●○●○○○○○●○●○●○○○ 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When the rotational frequency feedback signal is not emit during the indoor fan operation.	• Refer to 9-6.Ⓐ "Check of indoor fan motor".
5	Outdoor power system	POWER lamp flashes. 5-time flash ●○●○●○●○●○○○○○●○●○ 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When it consecutively occurs 3 times that the compressor stops for overcurrent protection or start-up failure protection within 1 minute after start-up.	• Refer to "How to check of inverter/compressor". Refer to outdoor unit service manual. • Check the stop valve.
6	Outdoor thermistors	POWER lamp flashes. 6-time flash ●○●○●○●○●○○○○○●○ 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When the outdoor thermistors short or open circuit during the compressor operation.	• Refer to "Check of outdoor thermistor". Refer to outdoor unit service manual.
7	Outdoor control system	POWER lamp flashes. 7-time flash ●○●○●○●○●○●○○○○○● 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When it cannot properly read data in the nonvolatile memory of the inverter P.C. board or the outdoor electronic control P.C. board.	• Replace the inverter P.C. board or the outdoor electronic control P.C. board. Refer to outdoor unit service manual.
8	Other abnonmality	POWER lamp flashes. 14-time flash ●○●○●○●○●○●○●○●○●○●○ ●○●○●○○○○○● 2.5-second OFF	Indoor unit and outdoor unit do not operate.	An abnormality other than above mentioned is detected.	• Confirm the abnormality in detail using the failure mode recall function for outdoor unit.



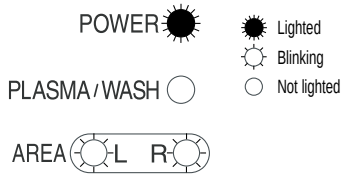
· Flashing of AREA lamp(left-hand side lamp) indicates abnormality.

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Correspondence
1	Indoor control system	Left lamp of AREA lamp flashes. 4-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When it cannot properly read data in the nonvolatile memory of the indoor electronic control P.C. board.	• Replace the indoor electronic control P.C. board.



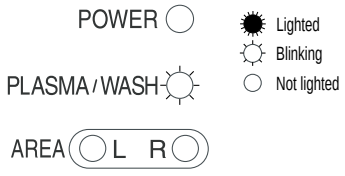
· Flashing of All lamps indicate abnormality.

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Correspondence
1	Attachment of the horizontal vane	All lamps flash at the same time. 0.5-second ON 0.5-second OFF	Indoor unit and outdoor unit do not operate.	When the electricity is not conducted to the interlock switch (Fan) of the horizontal vane.	• Refer to 9-6.Ⓔ "Check of installation of the horizontal vane".



· Flashing of AREA lamp(both lamps) indicates abnormality.
· POWER lamp is lighted.

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Correspondence
1	**MXZ type** Operation mode setting	**Both lamps flash** 2.5-second OFF	Outdoor unit operates but indoor unit does not operate.	When the operation mode of the each indoor unit is differently set to COOL(includes DRY) and HEAT at the same time, the operation mode of the indoor unit that has operated at first has the priority.	• Unify the operation mode. Refer to outdoor unit service manual.

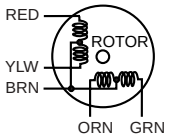
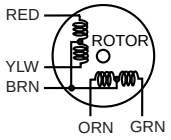
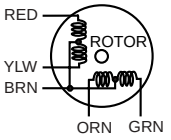
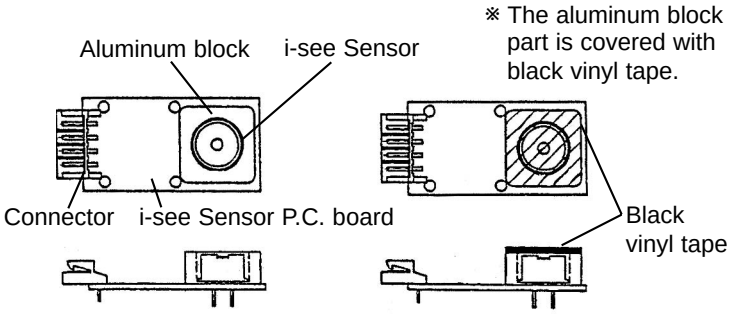


· Flashing of PLASMA/WASH lamp indicates abnormality.

No.	Abnormal point	Operation indicator lamp	Symptom	Condition	Correspondence
1	PLASMA DEODORIZING/ PLASMA AIR PURIFYING power control	PLASMA/WASH lamp flashes. 2-time flash 2.5-second OFF	Indoor unit and outdoor unit do not operate.	When PLASMA DEODORIZING power and/or PLASMA AIR PURIFYING power can not be turned OFF even if the PLASMA operation is turned OFF with remote controller.	•Refer to 9-6.Ⓕ"Check of PLASMA DEODORIZING power" or 9-6.Ⓖ"Check of PLASMA AIR PURIFYING power".

9-5. Trouble criterion of main parts

MSZ-FA25VA MSZ-FA35VA

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Room temperature thermistor(RT11)
Indoor coil thermistor (RT12(MAIN), RT13(SUB))</td><td>Measure the resistance with a tester.
Refer to 9-7. "Test point diagram and voltage", "Indoor electronic control P.C. board", the chart of thermistor.</td><td></td></tr>
<tr><td>Indoor fan motor(MF)</td><td>Check 9-6. Ⓐ.</td><td></td></tr>
<tr><td>Horizontal vane motor(MV1)</td><td>Measure the resistance between the terminals with a tester.
(Part temperature 10°C ~ 30°C)
<table><tr><th>Color of the lead wire</th><th>Normal</th></tr><tr><td>BRN-other one</td><td>235 Ω ~ 255 Ω</td></tr></table></td><td> 
</td></tr>
<tr><td>Vertical vane motor(MV2)
i-see Sensor motor(MT)</td><td>Measure the resistance between the terminals with a tester.
(Part temperature 10°C ~ 30°C)
<table><tr><th>Color of the lead wire</th><th>Normal</th></tr><tr><td>BRN-other one</td><td>282 Ω ~ 306 Ω</td></tr></table></td><td> 
</td></tr>
<tr><td>Front panel driving motor (MP)</td><td>Measure the resistance between the terminals with a tester.
(Part temperature 10°C ~ 30°C)
<table><tr><th>Color of the lead wire</th><th>Normal</th></tr><tr><td>BRN-other one</td><td>94 Ω ~ 102 Ω</td></tr></table></td><td> 
</td></tr>
<tr><td>i-see Sensor(RR)</td><td>Turn the power ON(i-see Sensor is energized) with the aluminum block part on the i-see Sensor P.C. board (upper part of i-see Sensor) covered with black vinyl tape, then measure the voltage between connector terminals of i-see Sensor using tester.
(Part temperature 10 ~ 40°C)
 

<table><tr><th>i-see Sensor connector terminals</th><th>Normal range</th></tr><tr><td>②(-) – ④(+)</td><td>1.874 ~ 3.387V DC</td></tr><tr><td>①(+) – ②(-)</td><td>1.010 ~ 1.420V DC</td></tr></table>**NOTE**: Pay attention to static electricity.</td><td></td></tr>
<tr><td>PLASMA DEODORIZING/ PLASMA AIR PURIFYING power</td><td>Check 9-6. Ⓕ or Ⓖ.</td><td></td></tr>
</table>

9-6. Troubleshooting flow

When POWER lamp flashes 3-time.
Indoor fan does not operate.

Ⓐ Check of indoor fan motor

The indoor fan motor error has occurred, and the indoor fan doesn't operate.

Turn OFF the power supply.

Is there any foreign matter that interferes the rotation of the line flow fan?

No

Yes

Remove the foreign matter and adjust the line flow fan.

Pay careful attention to the high voltage on the fan motor connector CN211.

Turn ON the power supply, wait 5 seconds or more, and then press EMERGENCY OPERATION switch.
Measure the supply voltage as follows within 12 seconds after EMERGENCY OPERATION switch is pressed.
If more than 12 seconds passes by, turn OFF the power supply and turn ON it again, then measure the voltage. ※
1.Measure the voltage between CN211 ①(+) and ③(-).
2.Measure the voltage between CN211 ⑤(+) and ③(-).

※If more than 12 seconds passes after EMERGENCY OPERATION switch is pressed, the voltage mentioned above 2 goes 0V DC although the indoor electric control P.C. board is normal.

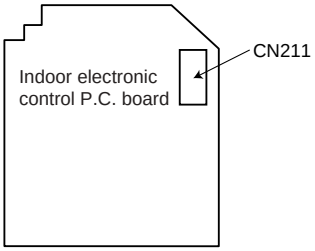
Is there 325V DC between CN211 ① (+) and ③ (-), and does the voltage between CN211 ⑤(+) and ③(-) rise to the range of 3 to 6V DC within 12 seconds after EMERGENCY OPERATION switch is pressed?

Yes

Replace the indoor fan motor.

No

Replace the indoor electronic control P.C. board.



The indoor fan motor error has occurred, and the indoor fan repeats "12-second ON and 30-second OFF" 3 times, and then stops.

Measure the voltage between CN211 ⑥(+) and ③(-) while the fan motor is rotating.

Is it unchanged holding 0V DC or 15V DC?

No (Changed)

Replace the indoor electronic control P.C. board.

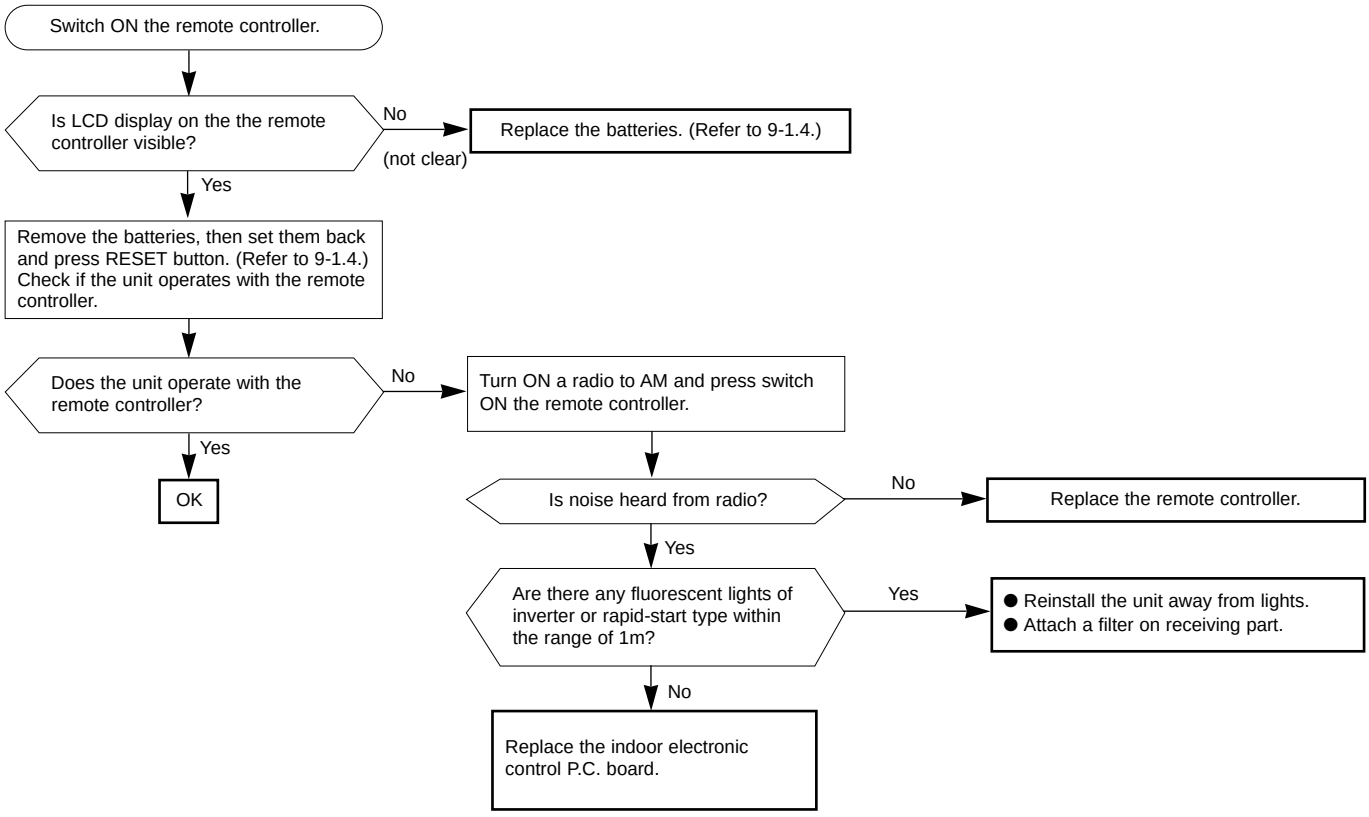
Yes (Unchanged)

Replace the indoor fan motor.

Indoor unit operates by pressing EMERGENCY OPERATION switch, but does not operate with the remote controller.

Ⓑ Check of remote controller and receiver P.C. board

※Check if the remote controller is exclusive for this air conditioner.


Switch ON the remote controller.
Is LCD display on the the remote controller visible?
No
(not clear)
Replace the batteries. (Refer to 9-1.4.)
Yes
Remove the batteries, then set them back and press RESET button. (Refer to 9-1.4.) Check if the unit operates with the remote controller.
Does the unit operate with the remote controller?
No
Turn ON a radio to AM and press switch ON the remote controller.
Yes
OK
Is noise heard from radio?
No
Replace the remote controller.
Yes
Are there any fluorescent lights of inverter or rapid-start type within the range of 1m?
Yes
● Reinstall the unit away from lights.
● Attach a filter on receiving part.
No
Replace the indoor electronic control P.C. board.

The unit does not operate with the remote controller.
Also, POWER lamp does not light up by pressing EMERGENCY OPERATION switch.

ⓒCheck of indoor electronic control P.C. board and indoor fan motor

Turn OFF the power supply.
Remove indoor fan motor connector CN211, vane motor connector CN151 front panel driving motor connector CN1U1 and the i-see Sensor motor connector CN110 from the indoor electronic control P.C. board and turn ON the power supply.

Does the unit operate with the remote controller? Does POWER lamp light up by pressing EMERGENCY OPERATION switch?

Yes

- Measure the resistance of the front panel driving motor coil. Refer to 9-5.
  - → Short/open circuit: Replace the front panel driving motor and the indoor electronic control P.C. board.
- Measure the resistance of the i-see Sensor motor coil. Refer to 9-5.
  - → Short/open circuit: Replace the i-see Sensor motor and the indoor electronic control P.C. board.
- Measure the resistance between CN211 ③ and ④ of the indoor fan motor connector.
  - → Short/open circuit: Replace the indoor fan motor.
- Measure the resistance of the horizontal vane motor coil and the vertical vane motor coil. Refer to 9-5.
  - → Short/open circuit: Replace the horizontal vane motor, the vertical vane motor and the indoor electronic control P.C. board.

No

Turn OFF the power supply.
Check both “parts side” and “pattern side” of the indoor electronic control P.C. board visually.

Are the varistor(NR11) burnt and the fuse(F11) blown? — No

Be sure to check both the fuse and the varistor in any case.

Is the fuse(F11) blown only? — No

Yes → Replace the varistor(NR11) and fuse(F11).

Yes

Measure the resistance between ①(+) and ③(-) of the indoor fan motor connector (to CN211 on the indoor electronic control P.C. board) . ※1,※2

※1. The fan motor connector's ① lead wire is red, whereas ③ is black.

※2. Connect "+" of the tester to fan motor connector's ① lead wire, and "-" to ③ lead wire, otherwise the resistance cannot be measured properly.

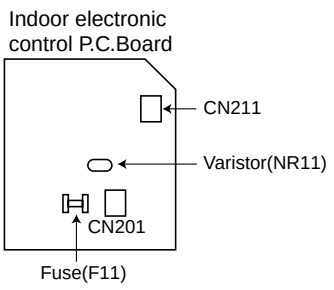
Is the resistance 1MΩ or more? — No → Replace the fuse (F11) and the indoor fan motor.

Yes → Replace the fuse (F11).

Measure the resistance of cement resistance R111 on the indoor electronic control P.C. board.

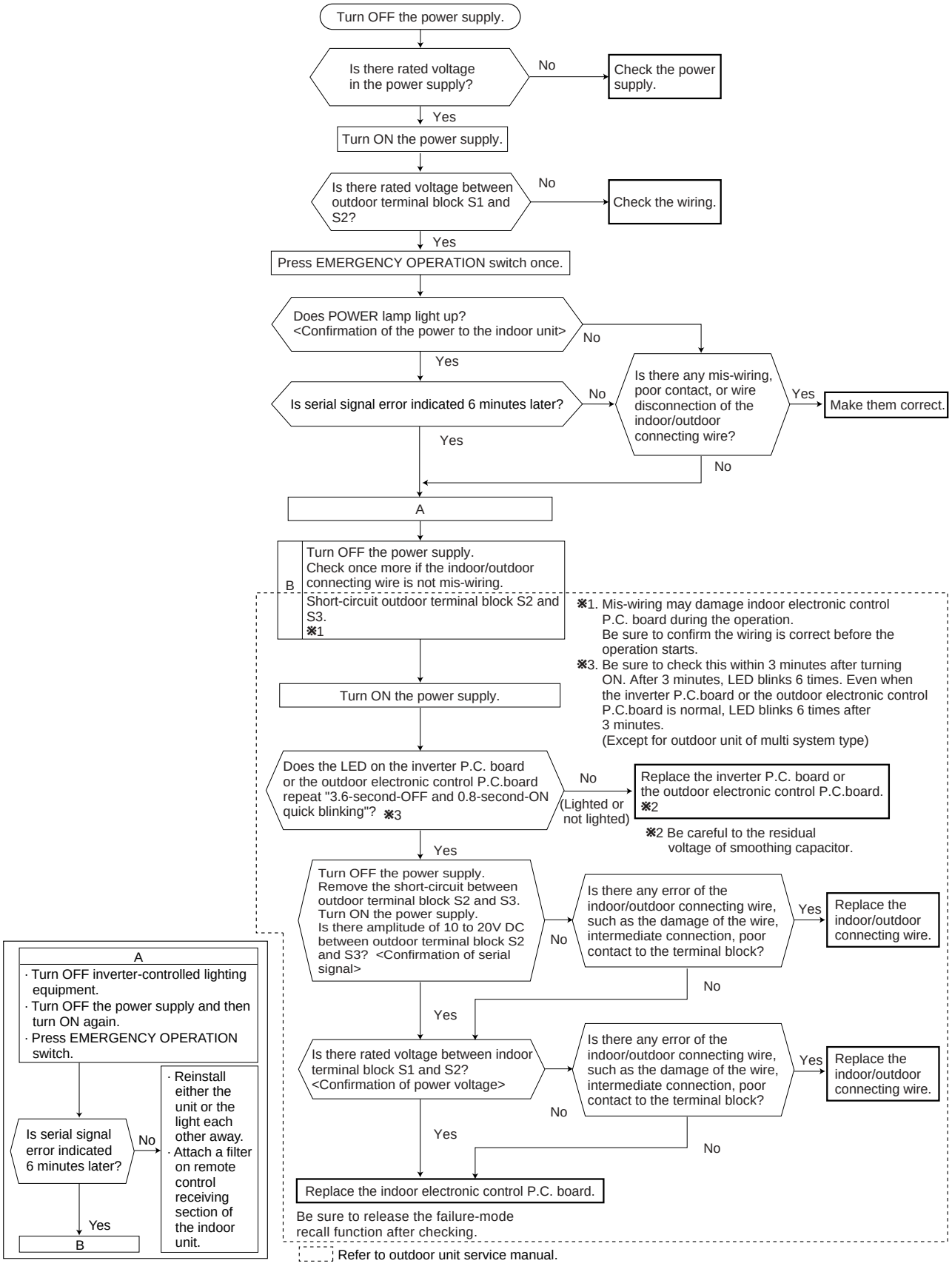
Is the resistance approx. 4Ω? — No → Replace the indoor electronic control P.C. board and the indoor fan motor.

Yes → Replace the indoor electronic control P.C. board.



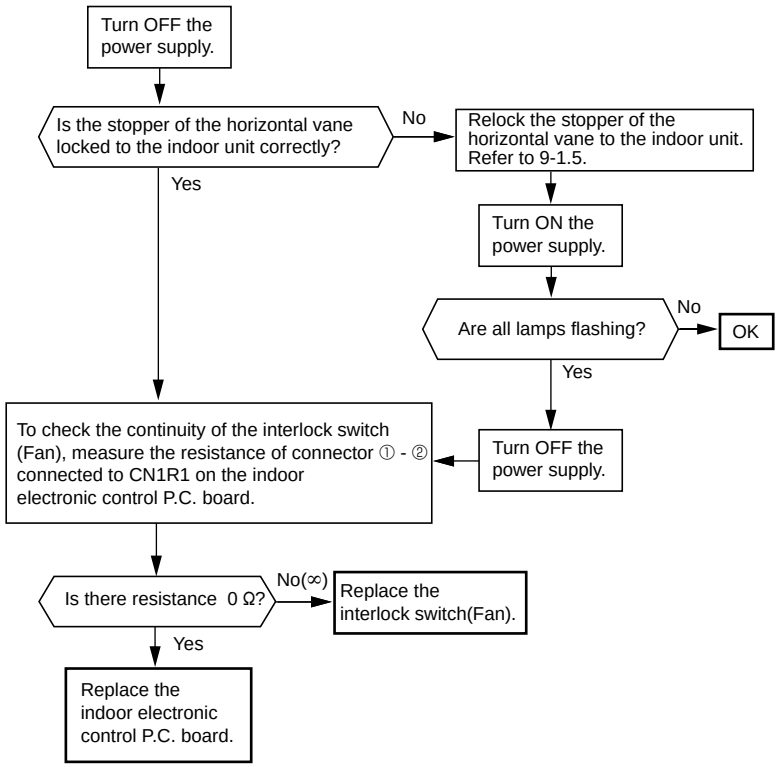
- **When unit cannot operate neither by the remote controller nor by EMERGENCY OPERATION switch. Indoor unit does not operate.**
- **When POWER lamp flashes ON and OFF in every 0.5-second. Outdoor unit does not operate.**

Ⓓ How to check mis-wiring and serial signal error


Turn OFF the power supply.
Is there rated voltage in the power supply?
No
Check the power supply.
Yes
Turn ON the power supply.
Is there rated voltage between outdoor terminal block S1 and S2?
No
Check the wiring.
Yes
Press EMERGENCY OPERATION switch once.
Does POWER lamp light up? <Confirmation of the power to the indoor unit>
No
Yes
Is serial signal error indicated 6 minutes later?
No
Is there any mis-wiring, poor contact, or wire disconnection of the indoor/outdoor connecting wire?
Yes
Make them correct.
Yes
No
A
B
Turn OFF the power supply.
Check once more if the indoor/outdoor connecting wire is not mis-wiring.
Short-circuit outdoor terminal block S2 and S3. ※1
※1. Mis-wiring may damage indoor electronic control P.C. board during the operation. Be sure to confirm the wiring is correct before the operation starts.
※3. Be sure to check this within 3 minutes after turning ON. After 3 minutes, LED blinks 6 times. Even when the inverter P.C.board or the outdoor electronic control P.C.board is normal, LED blinks 6 times after 3 minutes. (Except for outdoor unit of multi system type)
Turn ON the power supply.
Does the LED on the inverter P.C. board or the outdoor electronic control P.C.board repeat "3.6-second-OFF and 0.8-second-ON quick blinking"? ※3
No
(Lighted or not lighted)
Replace the inverter P.C. board or the outdoor electronic control P.C.board. ※2
※2 Be careful to the residual voltage of smoothing capacitor.
Yes
Turn OFF the power supply. Remove the short-circuit between outdoor terminal block S2 and S3. Turn ON the power supply. Is there amplitude of 10 to 20V DC between outdoor terminal block S2 and S3? <Confirmation of serial signal>
No
Is there any error of the indoor/outdoor connecting wire, such as the damage of the wire, intermediate connection, poor contact to the terminal block?
Yes
Replace the indoor/outdoor connecting wire.
No
Yes
Is there rated voltage between indoor terminal block S1 and S2? <Confirmation of power voltage>
No
Is there any error of the indoor/outdoor connecting wire, such as the damage of the wire, intermediate connection, poor contact to the terminal block?
Yes
Replace the indoor/outdoor connecting wire.
No
Yes
Replace the indoor electronic control P.C. board.
Be sure to release the failure-mode recall function after checking.
A
· Turn OFF inverter-controlled lighting equipment.
· Turn OFF the power supply and then turn ON again.
· Press EMERGENCY OPERATION switch.
Is serial signal error indicated 6 minutes later?
No
· Reinstall either the unit or the light each other away.
· Attach a filter on remote control receiving section of the indoor unit.
Yes
B
Refer to outdoor unit service manual.

When All lamps flash ON and OFF every 0.5-second.
Indoor unit and outdoor unit do not operate.

Ⓔ Check of installation of the horizontal vane


Turn OFF the power supply.
Is the stopper of the horizontal vane locked to the indoor unit correctly?
No
Relock the stopper of the horizontal vane to the indoor unit. Refer to 9-1.5.
Yes
Turn ON the power supply.
Are all lamps flashing?
No
OK
Yes
To check the continuity of the interlock switch (Fan), measure the resistance of connector ① - ② connected to CN1R1 on the indoor electronic control P.C. board.
Turn OFF the power supply.
Is there resistance 0 Ω?
No(∞)
Replace the interlock switch(Fan).
Yes
Replace the indoor electronic control P.C. board.

When PLASMA/WASH lamp flashes 2-time.
When POWER lamp flashes 1 to 5 times while PLASMA DEODORIZING / PLASMA AIR PURIFYING power failure mode is recalled.

Ⓕ Check of PLASMA DEODORIZING power

After performing the check, make sure to release the failure mode recall function.

Turn ON the power supply.

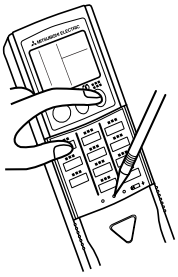
High voltage (approx. -3.9kV) is generated during PLASMA DEODORIZING power operation.
Pay careful attention and never touch PLASMA unit and the high-voltage lead part (red wire).

Does PLASMA/WASH lamp flash 2-time with unit stopping?

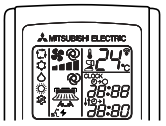
Yes → Replace the indoor electronic control P.C. board.

No

Make sure that the front panel is firmly closed. (Refer to 9-1.6 Figure 5)
① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button.
And release the other two buttons after all LCD except the set temperature in operation display section of the remote controller is displayed after 3 seconds.
③ Press OPERATE/STOP (ON/OFF) button (the set temperature is displayed)
④ And press PLASMA button once with the remote controller headed towards the indoor unit. ※1
PLASMA DEODORIZING operation is selected.
※The plasma power operation check mode is set.(Refer to 9-2.5.)



PLASMA DEODORIZING operation



※1 Regardless of normal or abnormal, a short beep is emitted once as the signal is received.

Does PLASMA/WASH lamp stay OFF, or continuously blink?

OFF → PLASMA DEODORIZING power supply is normal.
Working of SAFETY DEVICE (PLASMA UNIT) due to uncomplete close of the front panel could cause 2-time flash.

※2 Turn PLASMA DEODORIZING power OFF and ON again.
(For turning OFF PLASMA DEODORIZING power, refer to 9-2.3.)
(If it goes normal without turning OFF and ON, PLASMA/WASH lamp doesn't go OFF.)

Continuously blinking.

Remove PLASMA DEODORIZING filter, firmly close the front panel, and then perform PLASMA DEODORIZING power operation check (※2).
Does PLASMA/WASH lamp stay OFF, or continuously blink?

OFF → Abnormal discharge may occur due to much dirt on the PLASMA unit, clean the unit.
After cleaning, make sure to attach the unit since it is completely dry.
If PLASMA DEODORIZING power operation check is performed with the plasma unit wet, protection gets active and PLASMA/WASH lamp blinks continuously as well.

Continuously blinking.

Turn OFF the power supply, and check the SAFETY DEVICE(PLASMA UNIT).
Is it firmly fixed?

No → Firmly fix the SAFETY DEVICE(PLASMA UNIT).

Yes

Work and Not-work the SAFETY DEVICE (PLASMA UNIT) using something like a screw driver, and measure the resistance between CN1T2 ① and ③ on the indoor electronic control P.C. board. Does the SAFETY DEVICE function?

No → Replace the SAFETY DEVICE(PLASMA UNIT).

Yes

Keep the SAFETY DEVICE(PLASMA UNIT) Not-work (close) using something like a screw driver. Turn ON the power supply. Is the voltage between CN1 ①(+) and ②(GND) on the PLASMA POWER P.C. board (PLASMA DEODORIZING) 0V with the unit stopping? (Refer to 9-7.)

No
9.5V DC is generated. → Replace the indoor electronic control P.C. board.

Yes

Set the plasma power failure mode recall function. (Refer to 9-2.2)

When PLASMA DEODORIZING power turns ON by pressing PLASMA button once, is there 12.5V DC between CN1 ①(+) and ②(GND)?

No → Replace the indoor electronic control P.C. board, after check of the wiring of CN1T1 on the indoor electronic control P.C. board.

Yes

Replace the PLASMA POWER P.C. board (PLASMA DEODORIZING).

When PLASMA/WASH lamp flashes 2-time.
When POWER lamp flashes 1 to 5 times while PLASMA DEODORIZING / PLASMA AIR PURIFYING power failure mode is recalled.

Ⓖ Check of PLASMA AIR PURIFYING power

After performing the check, make sure to release the failure mode recall function.

Turn ON the power supply.

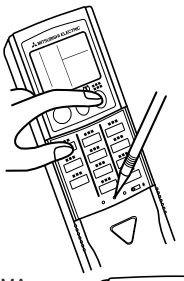
High voltage (approx. -3.9kV) is generated during PLASMA AIR PURIFYING power operation.
Pay careful attention and never touch PLASMA unit and the high-voltage lead part (red wire).

Does PLASMA/WASH lamp flash 2-time with unit stopping?

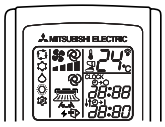
Yes → Replace the indoor electronic control P.C. board.

No

Make sure that the front panel is firmly closed. (Refer to 9-1.6 Figure 5)
① While pressing both OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press RESET button.
② First, release RESET button.
And release the other two buttons after all LCD except the set temperature in operation display section of the remote controller is displayed after 3 seconds.
③ Press OPERATE/STOP (ON/OFF) button (the set temperature is displayed)
④ And press PLASMA button twice with the remote controller headed towards the indoor unit. ※1
PLASMA AIR PURIFYING operation is selected.
※The plasma power operation check mode is set.(Refer to 9-2.5.)



PLASMA AIR PURIFYING operation



※1 Regardless of normal or abnormal, a short beep is emitted once as the signal is received.

Does PLASMA/WASH lamp stay OFF, or continuously blink?

OFF → PLASMA AIR PURIFYING power supply is normal.
Working of SAFETY DEVICE (PLASMA UNIT) due to uncomplete close of the front panel could cause 2-time flash.

※2 Turn PLASMA AIR PURIFYING power OFF and ON again.
(For turning OFF PLASMA AIR PURIFYING power, refer to 9-2.3.)
(If it goes normal without turning OFF and ON, PLASMA/WASH lamp doesn't go OFF.)

Continuously blinking.

Remove PLASMA AIR PURIFYING filter, firmly close the front panel, and then perform PLASMA AIR PURIFYING power operation check (※2).
Does PLASMA/WASH lamp stay OFF, or continuously blink?

OFF → Abnormal discharge may occur due to much dirt on the PLASMA unit, clean the unit.
After cleaning, make sure to attach the unit since it is completely dry.
If PLASMA AIR PURIFYING power operation check is performed with the plasma unit wet, protection gets active and PLASMA/WASH lamp blinks continuously as well.

Continuously blinking.

Turn OFF the power supply, and check the SAFETY DEVICE(PLASMA UNIT).
Is it firmly fixed?

No → Firmly fix the SAFETY DEVICE(PLASMA UNIT).

Yes

Work and Not-work the SAFETY DEVICE (PLASMA UNIT) using something like a screw driver, and measure the resistance between CN1T2 ① and ③ on the indoor electronic control P.C. board. Does the SAFETY DEVICE function?

No → Replace the SAFETY DEVICE(PLASMA UNIT).

Yes

Keep the SAFETY DEVICE(PLASMA UNIT) Not-work (close) using something like a screw driver. Turn ON the power supply. Is the voltage between CN1 ①(+) and ②(GND) on the PLASMA POWER P.C. board (PLASMA AIR PURIFYING) 0V with the unit stopping? (Refer to 9-7.)

No
9.5V DC is generated.
→ Replace the indoor electronic control P.C. board.

Yes

Set the plasma power failure mode recall function. (Refer to 9-2.2)

When PLASMA AIR PURIFYING power turns ON by pressing PLASMA button twice, is there 12.5V DC between CN1①(+) and ②(GND)?

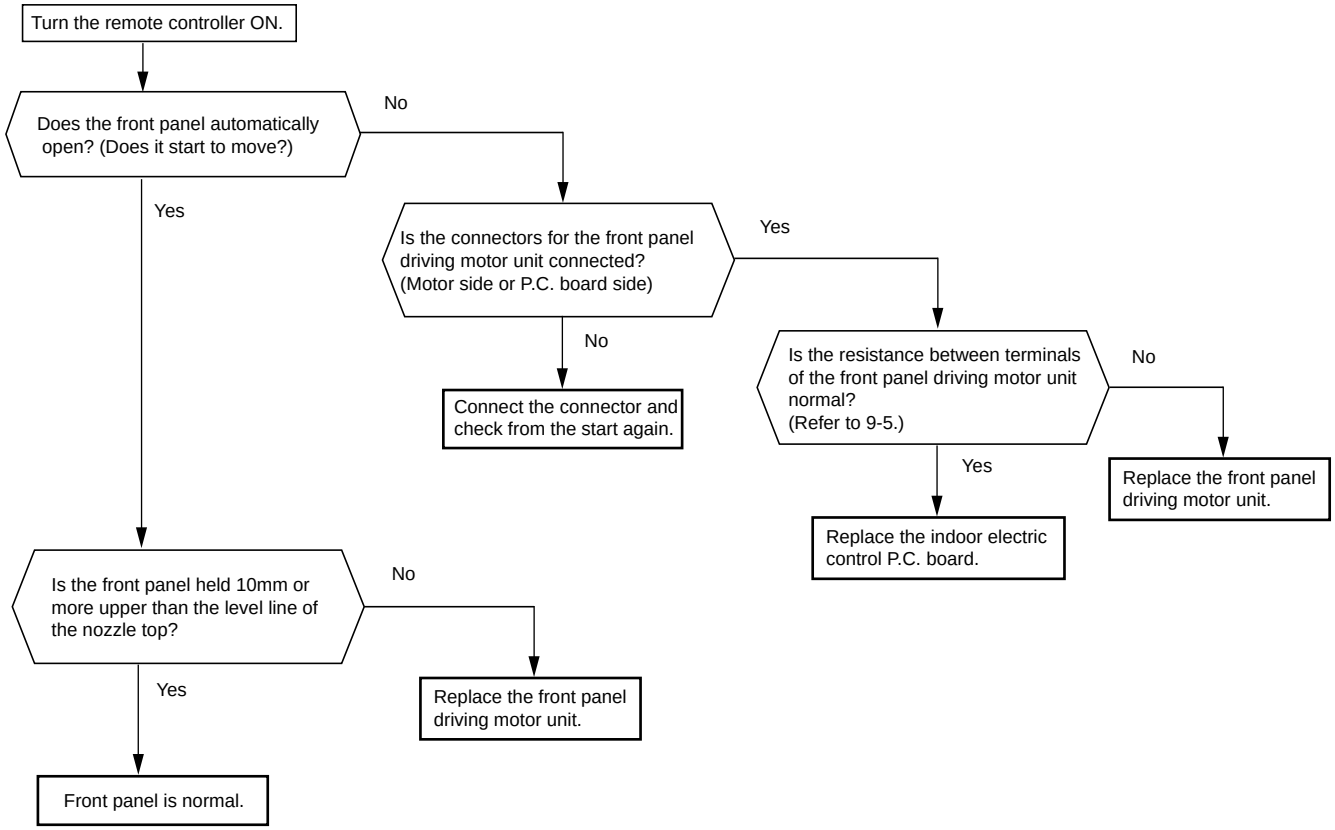
No → Replace the indoor electronic control P.C. board, after check of the wiring of CN1T1 on the indoor electronic control P.C. board.

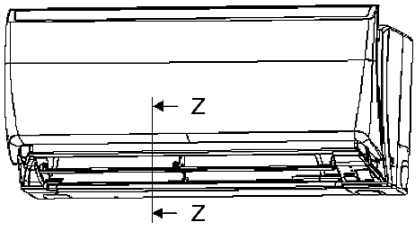
Yes

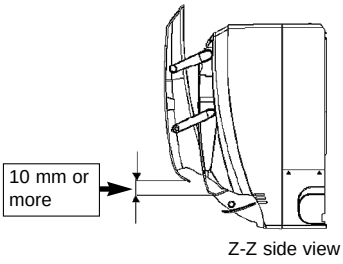
Replace the PLASMA POWER P.C. board (PLASMA AIR PURIFYING).

Indoor unit and outdoor unit do not operate.

Ⓗ Check of auto front panel

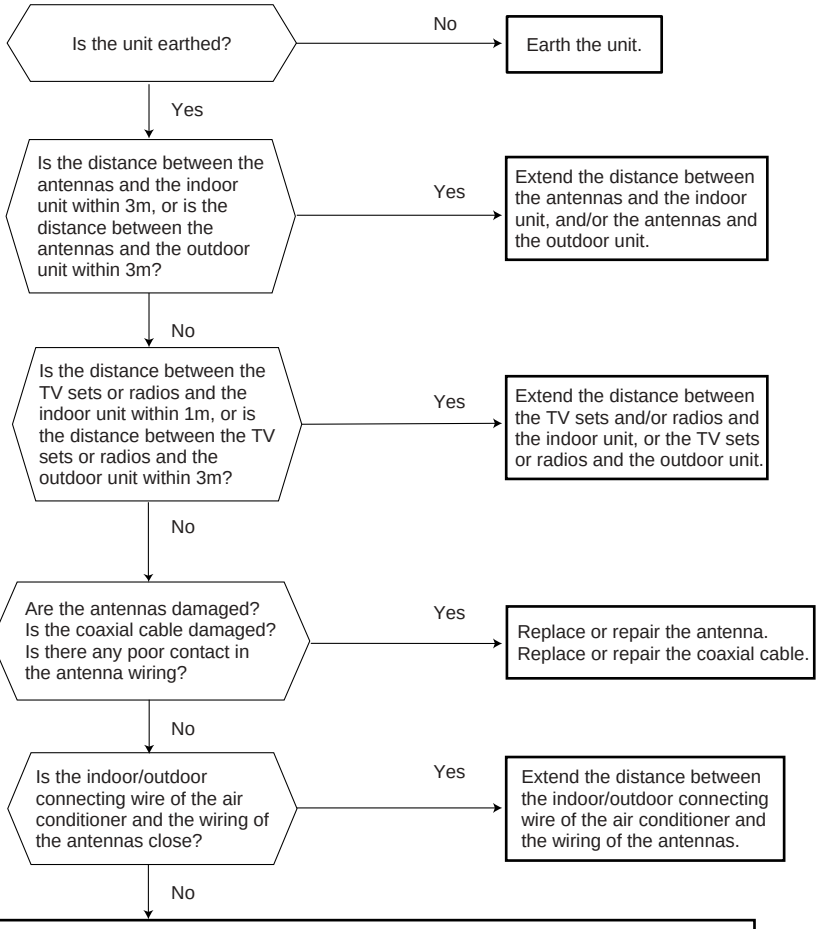

Turn the remote controller ON.
Does the front panel automatically open? (Does it start to move?)
No
Yes
Is the connectors for the front panel driving motor unit connected? (Motor side or P.C. board side)
Yes
No
Connect the connector and check from the start again.
Is the resistance between terminals of the front panel driving motor unit normal? (Refer to 9-5.)
No
Yes
Replace the front panel driving motor unit.
Replace the indoor electric control P.C. board.
Is the front panel held 10mm or more upper than the level line of the nozzle top?
No
Yes
Replace the front panel driving motor unit.
Front panel is normal.





Z-Z side view

ⓘ Electromagnetic noise enters into TV sets or radios


Is the unit earthed?
No
Earth the unit.
Yes
Is the distance between the antennas and the indoor unit within 3m, or is the distance between the antennas and the outdoor unit within 3m?
Yes
Extend the distance between the antennas and the indoor unit, and/or the antennas and the outdoor unit.
No
Is the distance between the TV sets or radios and the indoor unit within 1m, or is the distance between the TV sets or radios and the outdoor unit within 3m?
Yes
Extend the distance between the TV sets and/or radios and the indoor unit, or the TV sets or radios and the outdoor unit.
No
Are the antennas damaged? Is the coaxial cable damaged? Is there any poor contact in the antenna wiring?
Yes
Replace or repair the antenna. Replace or repair the coaxial cable.
No
Is the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas close?
Yes
Extend the distance between the indoor/outdoor connecting wire of the air conditioner and the wiring of the antennas.
No

Even if all of the above conditions is fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring).
Check the followings before asking for service.

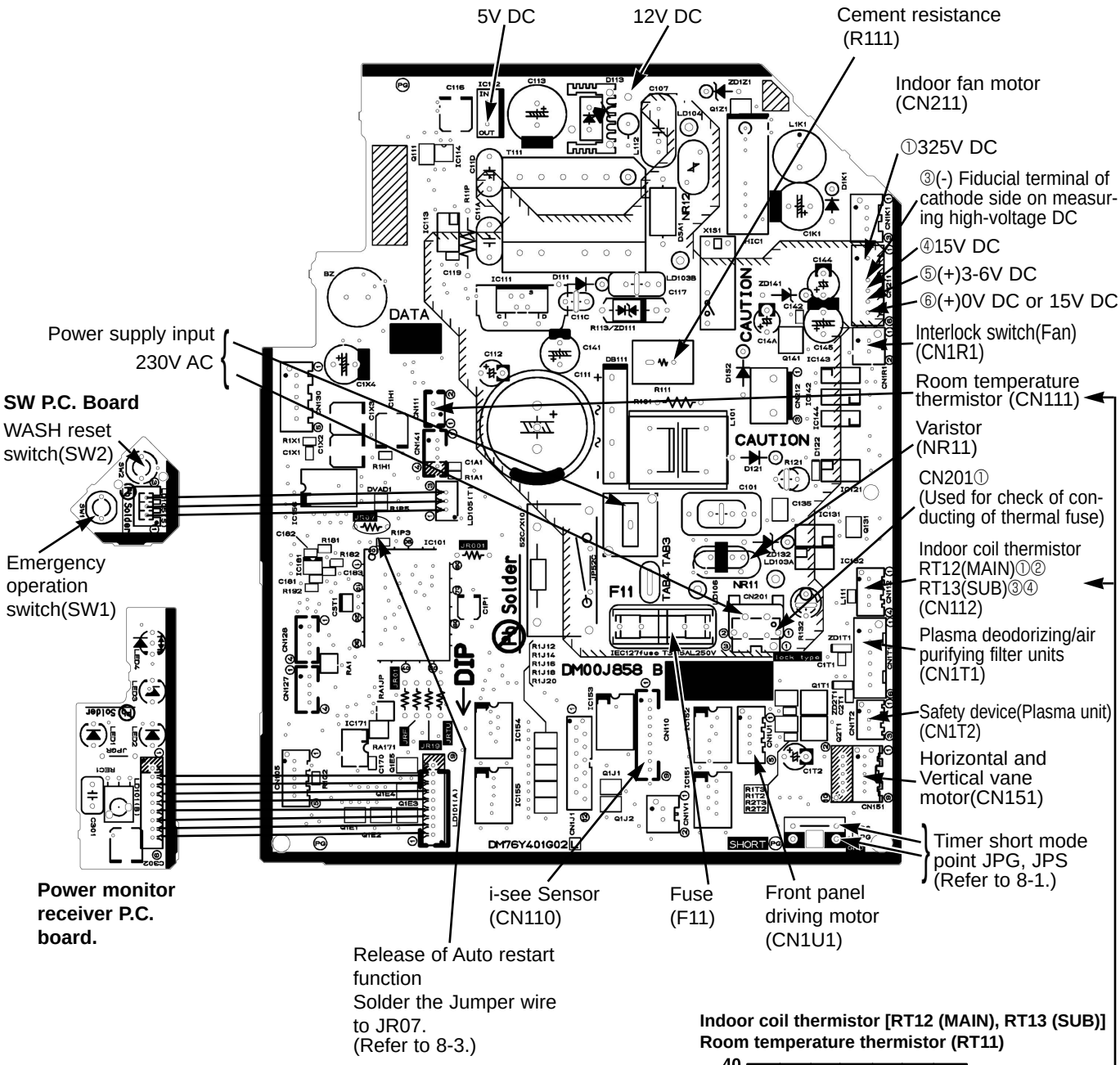
1. Devices affected by the electromagnetic noise
   TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of ;
   indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, grounding wire, antennas, wiring from antennas, receiver
5. Electric field intensity of the broadcast station affected by the electromagnetic noise
6. Presence or absence of amplifier such as booster
7. Operation condition of air conditioner when the electromagnetic noise enters in.
   1) Turn OFF the power supply once, and then turn ON the power supply. In this situation check for the electromagnetic noise.
   2) Within 3 minutes after turning ON the power supply, press OPERATE/STOP (ON/OFF) button on the remote controller for power ON, and check for the electromagnetic noise.
   3) After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
   4) Press OPERATE/STOP (ON/OFF) button on the remote controller for power OFF, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation check for the electromagnetic noise.

After checking the above, consult the service representative.

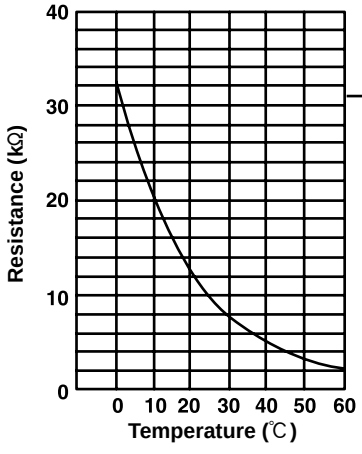
9-7. Test point diagram and voltage

MSZ-FA25VA MSZ-FA35VA

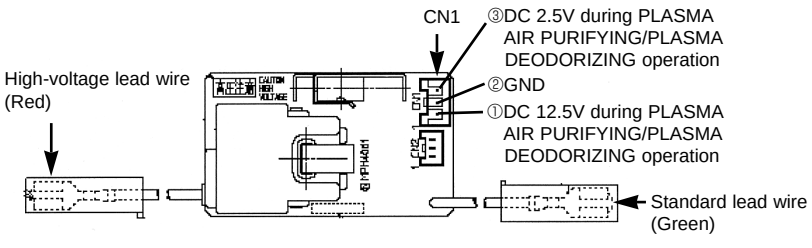
Indoor electronic control P.C. board



Indoor coil thermistor [RT12 (MAIN), RT13 (SUB)]
Room temperature thermistor (RT11)



Plasma power P.C. board

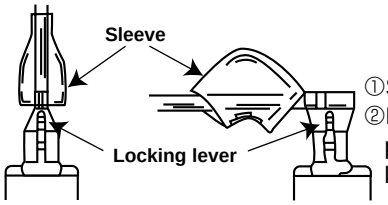

CN1
③DC 2.5V during PLASMA AIR PURIFYING/PLASMA DEODORIZING operation
②GND
①DC 12.5V during PLASMA AIR PURIFYING/PLASMA DEODORIZING operation
High-voltage lead wire (Red)
Standard lead wire (Green)

10 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

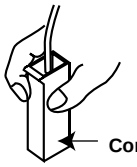
The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



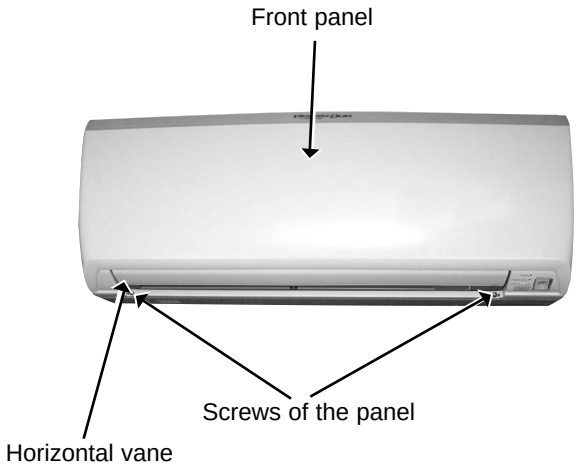
①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

(2) The terminal with this connector has the locking mechanism.



①Hold the sleeve, and pull out the terminal slowly.

MSZ-FA25VA MSZ-FA35VA
INDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the panel (1) Press and unlock the knobs on both sides of the front panel and lift the front panel until it is level, and then pull the hinges forward to remove the front panel. (2) Remove the horizontal vane. (3) Remove the screw caps of the panel. Remove the screws. (See Photo 1.) (4) Remove the screw of the front panel driving motor. (See Photo 2.) (5) Hold the lower part of both ends on the panel and pull it slightly toward you, and then remove the panel by pushing it upward.	**Photo 1**  **Photo 2**

OPERATING PROCEDURE

2. Removing the electronic control P.C. board, the power monitor receiver P.C. board, i-see Sensor, SW P.C. board and the terminal block

(1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
(2) Remove the screw of the V.A. clamp, and then the indoor/outdoor connecting wire.(See Photo 3.)
(3) Remove the switch holder from the electrical cover. (See Photo 4.)
(4) Remove the screw of the electrical cover, and then the electrical cover. (See Photo 4.)
(5) Remove the ground wire connected to the indoor electronic control P.C. board from the electrical box. (See Photo 5.)
(6) Unhook the power monitor receiver P.C. board holder from the catch. (See Photo 5.)
(7) Open the rear cover of the power monitor receiver P.C. board holder and pull out the power monitor receiver P.C. board.
(8) Remove the screws of the i-see Sensor cover and the i-see Sensor motor, and then remove the i-see Sensor motor.
(9) Open the i-see Sensor holder and pull out the i-see Sensor.
(10) Open the switch holder and pull out SW P.C. board.
(11) Pull the electronic control P.C. board slightly toward you from the electrical box, and disconnect TAB3 and all the connectors on the electronic control P.C. board. (LD101 and LD105 are direct-mounted to the electronic control P.C. board.)
(12) Pull out the electronic control P.C. board from the electrical box.
(13) Remove the ground wire connected to the heat exchanger from the electrical box. (See Photo 5.)
(14) Unhook the catches of the electrical box, and pull out the electrical box.
(15) Remove the screws of the terminal block cover, and then the terminal block cover and the terminal block holder. (See Photo 3.)
(16) Remove the terminal block by sliding it.

3. Removing the electrical box

(1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box.
(2) Remove the screw of the V.A. clamp, and then the indoor/outdoor connecting wire.(See Photo 3.)
(3) Remove the switch holder and the electrical cover. (See Photo 4.)
(4) Remove the ground wire connected to the heat exchanger from the electrical box.(See Photo 5.)
(5) Disconnect the following connectors on the electronic control P.C. board; the fan motor connector <CN211>, the indoor coil thermistor connector <CN112>, the vane motor connector <CN151>, the connector of the interlock switch (Fan) of the horizontal vane <CN1R1>, the connector of the safety device (plasma unit) <CN1T2>, the connector of the plasma power P.C. board <CN1T1>, the connector of the front panel driving motor <CN1U1>.
(6) Unhook the catches of the electrical box, and pull out the electrical box. (See Photo3.)

PHOTOS

Photo 3

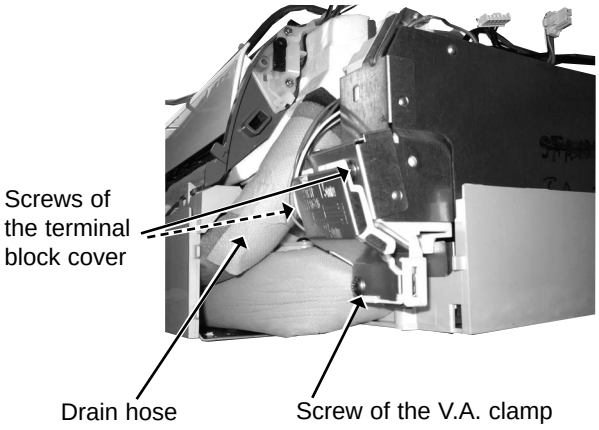


Photo 4

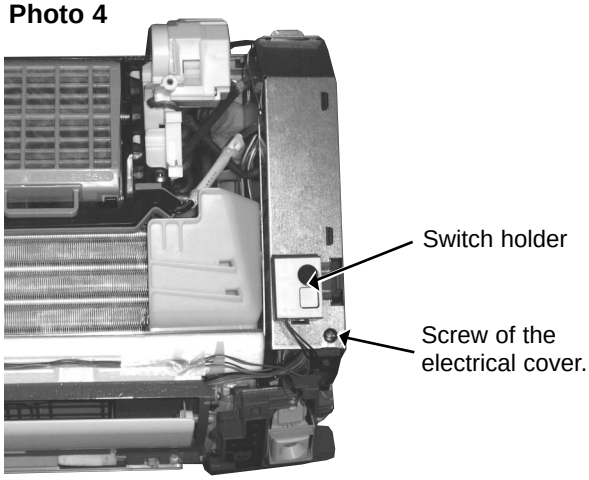
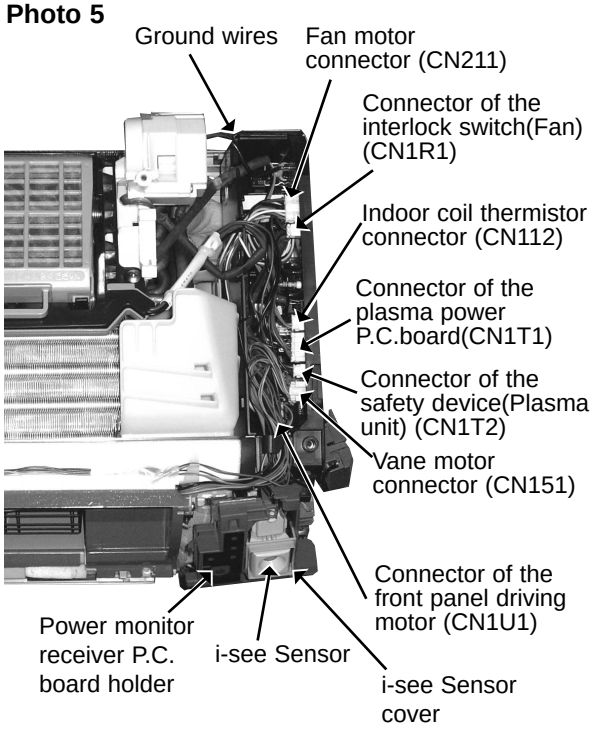
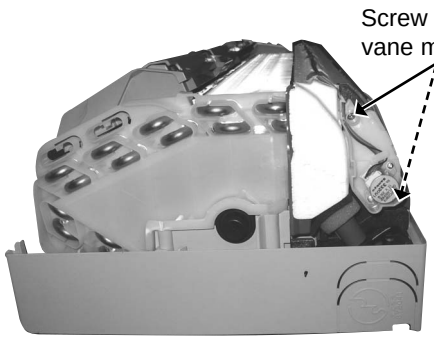
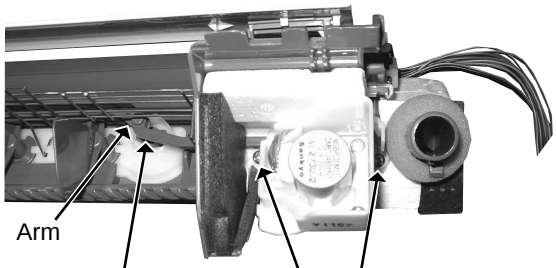
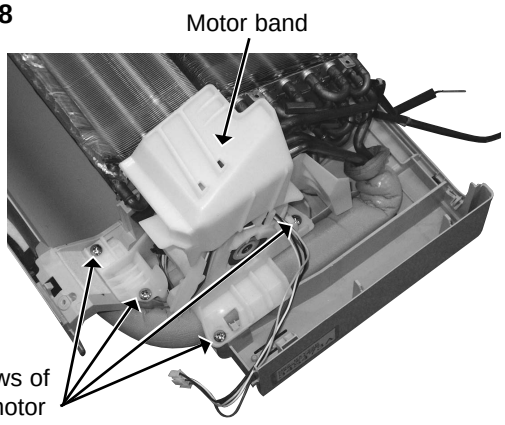
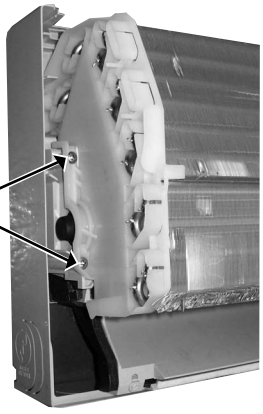
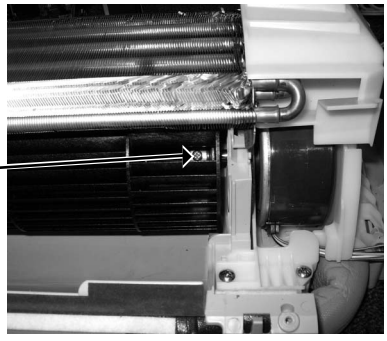
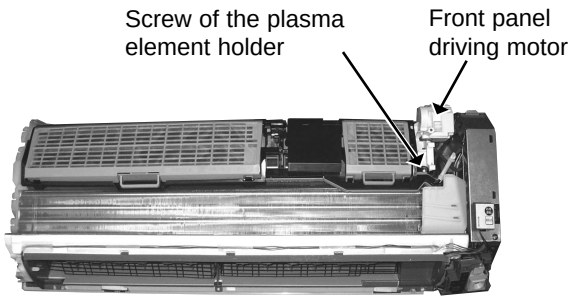
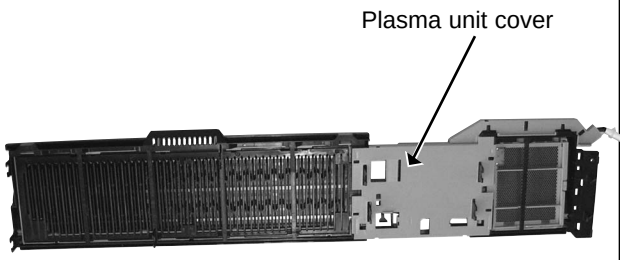
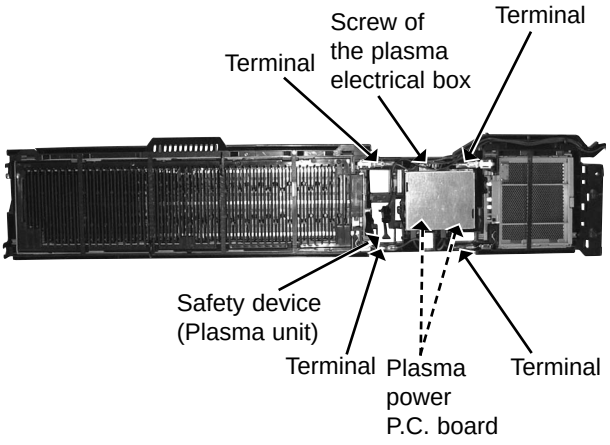


Photo 5


Ground wires
Fan motor connector (CN211)
Connector of the interlock switch(Fan) (CN1R1)
Indoor coil thermistor connector (CN112)
Connector of the plasma power P.C.board(CN1T1)
Connector of the safety device(Plasma unit) (CN1T2)
Vane motor connector (CN151)
Connector of the front panel driving motor (CN1U1)
Power monitor receiver P.C. board holder
i-see Sensor
i-see Sensor cover

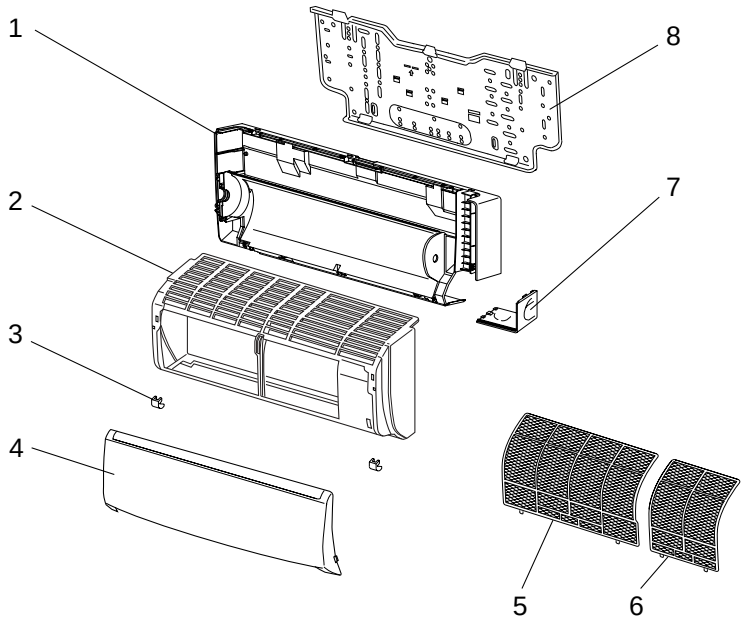
OPERATING PROCEDURE	PHOTOS
4. Removing the horizontal vane motor unit (1) Remove the horizontal vane and the panel. (Refer to 1.) (2) Remove the screws of the horizontal vane motor unit, and pull out the horizontal vane motor unit. (See Photo 6.) (3) Disconnect the connector from the horizontal vane motor unit.	**Photo 6** 
5. Removing the vertical vane motor unit (1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box. (2) Pull out the drain hose from the nozzle assembly, and remove the nozzle assembly. (See Photo 5.) (3) Remove the crank of the vertical vane motor unit from the arm of the vertical vane.(See Photo 7.) (4) Remove the screws of the vertical vane motor unit, and pull the vertical vane motor unit. (See Photo 7.)	**Photo 7** 
6. Removing the indoor fan motor and the line flow fan (1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box. (2) Remove the switch holder and the electrical box. (Refer to 3.) (3) Pull out the drain hose from the nozzle assembly, and remove the nozzle assembly. (4) Remove the screws fixing the motor bed. (See Photo 8.) (5) Loosen the screw fixing the line flow fan. (See Photo 9.) (6) Remove the motor bed together with fan motor and motor band. (7) Release the hooks of the motor band, and remove the motor band then pull out the indoor fan motor. (8) Remove the screws fixing the left side of the heat exchanger. (See Photo 10.) (9) Lift the heat exchanger, and pull out the line flow fan to the lower-left.	**Photo 8**  **Photo 10**  **Photo 9** 

OPERATING PROCEDURE	PHOTOS
7. Removing the plasma power P.C. board (1) Remove the horizontal vane, the panel (Refer to 1.) and the corner box. (2) Remove the switch holder and the electrical cover. (Refer to 3.) (3) Disconnect the connector of the front panel driving motor <CN1U1> from the electronic control P.C. board. (4) Remove the front panel driving motor. (5) Remove the screw of the plasma element holder, and remove the plasma element holder from the heat exchanger. (See Photo 11.) (6) Unhook all the catches of plasma unit cover and remove the plasma unit cover. (See Photo 12.) (7) Remove the terminals with locking mechanism connected to the plasma power P.C. board and the safety device (Plasma unit). (See Photo 13.) (8) Remove the plasma electrical box from the plasma element holder. (9) Remove the screw fixing the plasma electrical box, and open the plasma electrical box then pull out the plasma power P.C. board from the plasma electrical box. (See Photo 13.)	**Photo 11**  **Photo 12**  **Photo 13** 

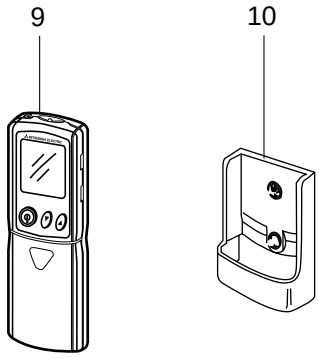
11 PARTS LIST

MSZ-FA25VA
MSZ-FA35VA

11-1. INDOOR UNIT STRUCTURAL PARTS



11-2. ACCESSORY AND REMOTE CONTROLLER



11-1. INDOOR UNIT STRUCTURAL PARTS

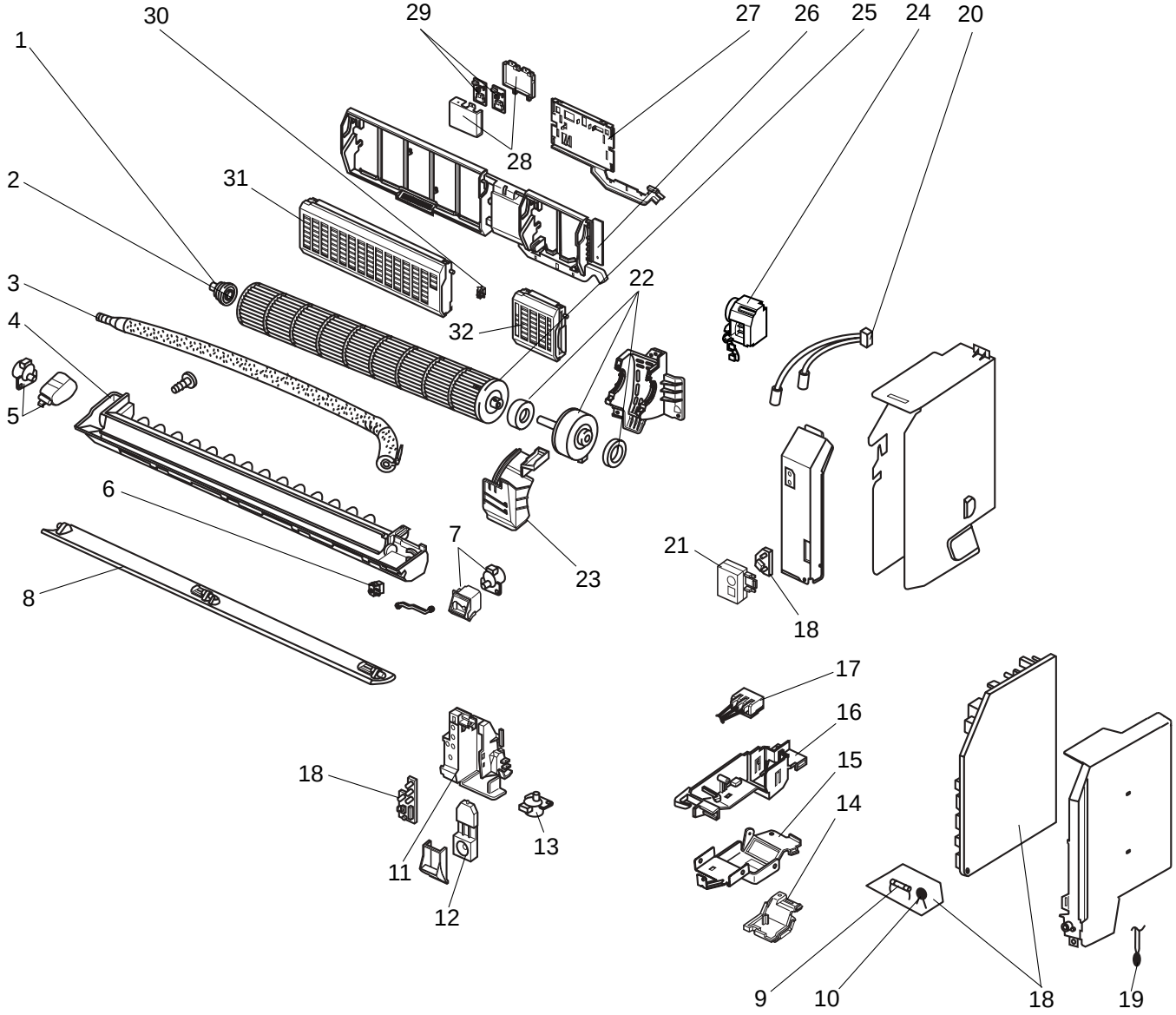
No.	Part No.	Part name	Symbol in Wiring Diagram	Q' ty/unit				Remarks
				MSZ-FA25VA -		MSZ-FA35VA -		
				A1	A2	A1	A2	
1	E02 897 234	BOX		1		1		
	E02 A32 234	BOX			1		1	
2	E02 913 000	PANEL ASSEMBLY		1	1	1	1	Including No.3,4
3	E02 913 067	SCREW CAP		2	1	2	1	2PCS/SET
4	E02 913 010	FRONT PANEL		1	1	1	1	
5	E02 914 100	AIR FILTER (LEFT)		1	1	1	1	
6	E02 913 100	AIR FILTER (RIGHT)		1	1	1	1	
7	E02 913 975	CORNER BOX (RIGHT)		1		1		
	E02 A32 975	CORNER BOX (RIGHT)			1		1	
8	E02 913 970	INSTALLATION PLATE		1	1	1	1	

11-2. ACCESSORY AND REMOTE CONTROLLER

9	E02 913 426	REMOTE CONTROLLER		1	1	1	1	KM05A
10	E02 527 083	REMOTE CONTROLLER HOLDER		1	1	1	1	

MSZ-FA25VA
MSZ-FA35VA

11-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS



11-4. INDOOR UNIT HEAT EXCHANGER

11-3. INDOOR UNIT ELECTRICAL PARTS AND FUNCTIONAL PARTS

No.	Part No.	Part name	Symbol in Wiring Diagram	Q' ty/unit				Remarks
				MSZ-FA25VA-		MSZ-FA35VA-		
				A1	A2	A1	A2	
1	E02 751 509	BEARING MOUNT		1	1	1	1	
2	E02 001 504	SLEEVE BEARING		1	1	1	1	
3	E02 897 702	DRAIN HOSE		1	1	1	1	
4	E02 913 235	NOZZLE ASSEMBLY		1	1	1	1	
5	E02 897 303	VANE MOTOR UNIT (HORIZONTAL)	MV1	1	1	1	1	UP & DOWN
6	E02 897 316	INTERLOCK SWITCH(FAN)		1	1	1	1	
7	E02 913 303	VANE MOTOR UNIT (VERTICAL)	MV2	1	1	1	1	RIGHT & LEFT
8	E02 913 040	HORIZONTAL VANE		1	1	1	1	
9	E02 A49 382	FUSE	F11	1	1	1	1	3.15A
10	E02 661 385	VARISTOR	NR11	1	1	1	1	
11	E02 913 095	POWER MONITOR RECEIVER P.C. BOARD HOLDER		1	1	1	1	
12	E02 913 391	i-see Sensor	RR	1	1	1	1	
13	E02 914 303	i-see Sensor MOTOR	MT	1	1	1	1	
14	E02 897 784	VA CLAMP		1	1	1	1	
15	E02 897 780	TERMINAL BLOCK COVER		1	1	1	1	
16	E02 897 779	TERMINAL BLOCK HOLDER		1	1	1	1	
17	E02 913 375	TERMINAL BLOCK	TB	1	1	1	1	
18	E02 913 452	ELECTRONIC CONTROL P.C. BOARD ※1		1	1			AUTO RESTART
	E02 914 452	ELECTRONIC CONTROL P.C. BOARD ※1				1	1	AUTO RESTART
19	E02 897 308	ROOM TEMPERATURE THERMISTOR	RT11	1	1	1	1	
20	E02 913 307	INDOOR COIL THERMISTOR	RT12, RT13	1	1			
	E02 914 307	INDOOR COIL THERMISTOR	RT12, RT13			1	1	
21	E02 913 782	SWITCH HOLDER		1	1	1	1	
22	E02 897 300	INDOOR FAN MOTOR ※2	MF	1	1	1	1	RC0J40-□□ or RC0J30-□□
23	E02 897 333	MOTOR BAND		1	1	1	1	
24	E02 898 303	FRONT PANEL DRIVING MOTOR	MP	1	1	1	1	
25	E02 897 302	LINE FLOW FAN		1	1	1	1	
26	E02 913 775	PLASMA ELEMENT HOLDER		1	1	1	1	
27	E02 913 776	PLASMA UNIT COVER		1	1	1	1	
28	E02 913 777	PLASMA ELECTRICAL BOX		1	1	1	1	
29	E02 897 440	PLASMA POWER P.C. BOARD		2	2	2	2	
30	E02 898 316	SAFETY DEVICE (PLASMA UNIT)		1	1	1	1	
31	E02 913 774	PLASMA AIR PURIFYING FILTER UNIT	PLASMA_A	1	1	1	1	
32	E02 914 774	PLASMA DEODORIZING FILTER UNIT	PLASMA_D	1	1	1	1	

※1 Including SW P.C. BOARD and POWER MONITOR RECEIVER P.C. BOARD
※2 Including FAN MOTOR RUBBER MOUNT (2 PCS/SET)

11-4. INDOOR UNIT HEAT EXCHANGER

33	E02 913 620	INDOOR HEAT EXCHANGER		1	1			
	E02 914 620	INDOOR HEAT EXCHANGER				1	1	
34	E02 815 666	UNION (GAS)		1	1	1	1	ϕ9.52
35	E02 151 667	UNION (LIQUID)		1	1	1	1	ϕ6.35

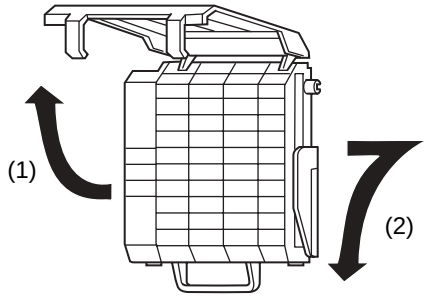
12 OPTIONAL PARTS

12-1. DEODORIZING CERAMIC FILTER

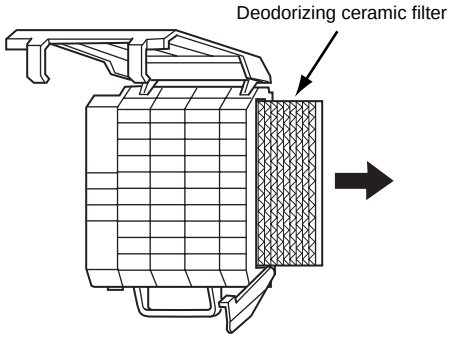
Replacement of the deodorizing ceramic filter(about once every 6 years)

Deodorizing ceramic filter is installed inside PLASMA DEODORIZING filter unit. The filter is fragile. Handle it with care.
NOTE: PLASMA DEODORIZING filter unit may not operate properly if the deodorizing ceramic filter is not installed.
Be sure to install the deodorizing ceramic filter.

(1) Release the two knobs to open the filter unit.
(2) Pull the side knobs to outward and then forward to remove, as illustrated below.



(3) Pull out the deodorizing ceramic filter from the side of the filter unit.

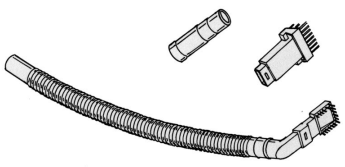


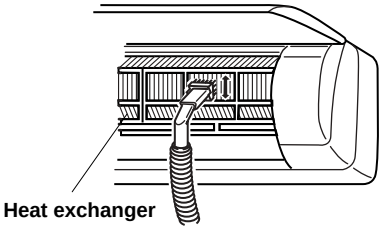
(4) Install the deodorizing ceramic filter by following the removal procedure in reverse.

Model	Part No.
MSZ-FA25VA **MSZ-FA35VA**	MAC-305FT-E

12-2. QUICK CLEAN KIT

● You can sweep the surface of heat exchanger if you install the special-made brush to your vacuum cleaner.

Model	Part No.	
MSZ-FA25VA **MSZ-FA35VA**	MAC-093SS-E	



MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO100-8310, JAPAN

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